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October 28th, 1943

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"Oil Goes to War" Theme of A. P. I. 24th Annual Meeting

Second API Wartime Convention to Hear Ickes, Davies, Atherton, Dewey, and others report to American People on what has been accomplished and what remains to be done.

The role of petroleum as supplier of the essential materials to fuel and power our gigantic war machine, at home and on the battle fronts, will monopolize most of the sessions of the Twenty-fourth Annual Meeting of the American Petroleum Institute, which will be held at the Palmer House in Chicago, November 8 to 11, 1943.

At this second wartime convention of the petroleum industry high-ranking Army, Navy and Coast Guard officers, and top-flight executives from the Petroleum Administration for War, the War Production Board, and other government agencies, as well as the new national commander of the American Legion, will join oil men in reporting on the state of the nation with respect to petroleum in war. Speakers at two general sessions and at most of the nine group sessions will review what has already been accomplished, and will outline what must still be done in the grim days ahead before victory.

Petroleum Administrator for War Harold L. Ickes will address the second General Session on Thursday afternoon, November 11.

The first General Session, on Wednesday afternoon, November 10, will hear Deputy Petroleum Administrator for War Ralph K. Davies, WPB Rubber Director Bradley Dewey, and Warren H. Atherton, national commander of the American Legion. Institute President W. R. Boyd, Jr., will lead off this session with the president's annual address.

As with the wartime convention last year, divisions and departments are moved up so that sessions will conclude Thursday afternoon — shortening the annual meeting to four days from the usual five.

A group session on wartime protection of petroleum facilities—including employee training, fire protection, safeguarding of wharves and piers, and internal security—will be held Tuesday morning, November 9; and will hear A. A. Jergins of the Petroleum Administration for War, Captain Norman B. Hall of the U. S. Coast Guard, and Colonel George K. Engelhart of the Provost Marshal General's Office.

Three refining group sessions, Tuesday afternoon, November 9, and Wednesday and Thursday mornings, November 10 and 11, will consider the wartime refinery cooperation and technologic team work between petroleum refiners and Petroleum Industry War Council and the Petroleum Administration for War, as well as recent developments in research and in catalytic cracking. These sessions will hear papers on cracking-coil tubes in war plants, the role of the analytical chemist in chemist in war, and the activities of advisory committees working on problems of aviation gasoline and lubricating oils for our war machines.

One refining session will consider reports on two of the Institute's projects in fundamental research, viz., (1) hydrocarbons in the gasoline fraction of seven representative crude oils, and (2) the synthesis and properties of hydrocarbons of high molecular weight. This session also will hear about the Houdry Adiabatic process for conversion of petroleum hydrocarbons, and will conclude with a paper on cracking with catalysts. One entire session will be devoted to catalytic cracking, those amazing processes which force crude-oil molecules into new combinations and give us powerful fuels for smashing the Axis.

The Division of Production will hold 5 group sessions Tuesday afternoon and evening, November 9, and Wednesday and Thursday mornings, November 10 and 11—which will consider wartime problems of producing oil, drilling and production practice, internal corrosion of gasoline pipe lines, as well as the manpower shortage.

The Tuesday afternoon session will be devoted to a symposium on

(Continued on Page 5)

Our troops inspect a captured Axis tank, looking for booby traps.
INTERNATIONAL NEWS PHOTO

Every battle is a showdown . . . our men, weapons and equipment against the enemy's . . . gasoline, oil and *wire rope* included. That's why our forces need the best rope they can get . . . *and lots of it.* Below are some of the ways in which *you* can help to send more wire rope over there by making your own wire lines *last longer* over here:

1. Start with the correct wire line; for modern high speed drilling, a rotary line should be *preformed.* Use enough parts for loads to be handled, making sure that rope diameter matches sheave grooves.

2. Check equipment thoroughly. Repair or replace worn, corrugated or wobbly sheaves. Inspect drums for roundness.

3. Install line carefully. Avoid kinking when unreeling and handling. Spool evenly on drum, under tension, and keep line tightly wound.

4. Break in a new line cautiously, gradually increasing speeds and loads. Rope life is greatly prolonged by smooth starts and stops . . . reasonable speeds . . . frequent examination of rope, sockets, clips and splices.

5. Care for your rope. Clean and lubricate regularly. Many drillers change the position on the drum at intervals, and cut off short lengths, to distribute wear. Get posted on other practices by sending for our free "Drillers' Wire Rope Hand Book."

One thing more: Use a wire line of known stamina and dependability. *Preformed* Yellow Strand combines flexibility, toughness, elasticity and strength in proper balance. It stays on the job . . . curtails replacements . . . helps you keep manpower and equipment producing—for Victory.

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YELLOW STRAND
PREFORMED ROTARY LINE

Carrington King

Reports From Washington

Only the prospect of more trouble lies before the California oil industry—as California Oil World goes to press.

With the West Coast still rocking from the one-gallon slash in gasoline ration coupons, even more serious restrictions on the Western motorists are foreseen . . . The crude price fight remains unsettled . . . The Elk Hills arrangement between Standard of California and the Navy Department is red hot.

On the black side of the ledger is the fact that Congress appears determined to raise crude prices and that several pieces of legislation to this effect have been introduced. Also, "urgent representations" were made, at the October 7 meeting of the Petroleum Industry War Council, to add derrickmen, firemen, floormen and oil well pumpers to the "critical list" originated by the War Man Power Commission,—a move hailed by oil men who acknowledge the fact that the manpower problem must be handled right back to the well, instead of only through the present concentration on workers needed for 100 octane plants and other refinery projects.

Some talk has been heard about the U. S. Treasury Department laying off the annual question of percentage depletion. It is understood the new tax program will not mention the subject, but it is sure to come up some time during the present Congressional session . . . although the 27½% is not likely to be thrown out . . .

The P.I.W.C. meeting, attended by a small delegation of Californians including Sidney Belither of Shell; Sam Mosher, of Signal; Bert Mattei, Honolulu Oil Corp.; William C. Moeller, Jr., of Southern California Gas Co., and Charlie Jones, of Richfield, concentrated on gasoline problems, the crude oil situation and manpower and material delemmas. The Californians participated in a discussion of the forthcoming cut in gasoline rations for Districts 4 and 5, it was learned, but they conceded the need for the ration cut after statistics had been produced . . . It might be pointed out here that the 4,500,000 barrels of "gasoline," supposed to be in storage in California, is really naphtha and is badly needed for the manufacture of light products so vital to the war effort.

One Californian—whose name is being withheld in order to spare him any possible embarrassment — flatly predicted a break in the crude price situation within two weeks. (If this prediction should come true, due credit will be given in our next issue to its originator.)

This same Californian, however, viewed with alarm the "half-dozen bills" already before the Congress seeking a raise in crude prices. He expressed himself as "pessimistic that this may bring something out that will be undesirable." Only by hammering away at the gross inequity that exists between oil prices and the nation's overall commodity index can the reluctance of the Office of Price Administration and other Government agencies and the public be overcome, he added.

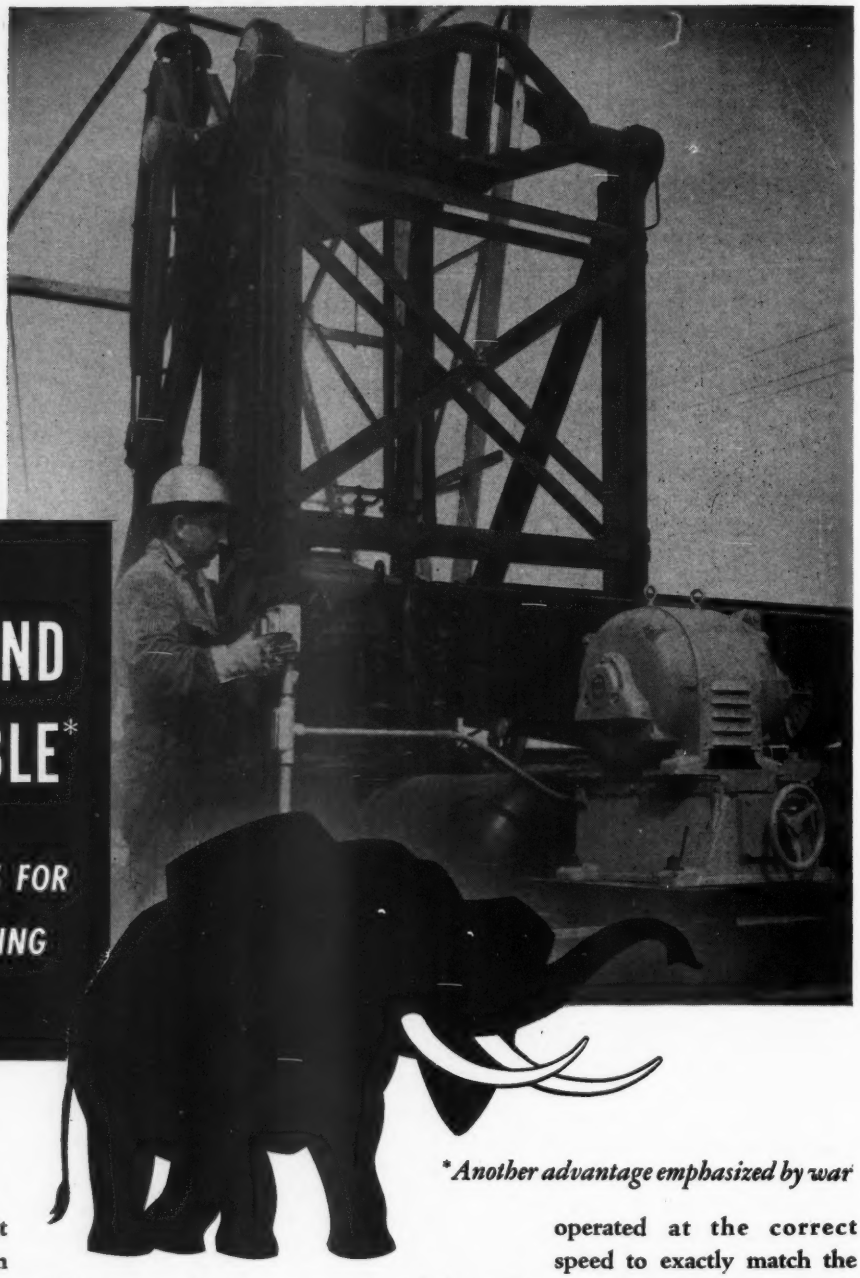
Companies and locations were given out the other day by the Petroleum Administration for War, to show that California will have six new 100 octane plants in operation by next year turning out the equivalent of a "1000-plane bombing raid on Berlin every four days." (This is the new figure of speech approved by War Department censors when capacity is inquired about).

Shell is building a plant at Wilmington. Also, Union Oil Co. A plant constructed by Standard of California will go on stream at El Segundo; General Petroleum will start producing 100 octane at Torrance; Wilshire Oil Co. has a project at Norwalk, and Mohawk Petroleum Corp. is building at Bakersfield, the PAW disclosed.

Strong recommendations for a crude price raise were made by the Rivers subcommittee of the House Naval Affairs Committee this month.

" . . . The immeasurable benefit (of petroleum) to the war effort, to the civilian population of today and to the generations yet unborn cannot be measured in dollars and cents," the committee said. "We feel, therefore, that if it is necessary to raise the price of crude oil and refined products to meet the increase in the cost of finding, developing, and producing adequate amounts of petroleum, patriotism demands such a course. We should not take a chance on a matter so vital to the economy of our Nation."

Another Congressional investigation by the Lea committee—an annual affair, only one that is welcomed by most segments of the industry because of the sympathetic attitude this subcommittee of the House Interstate and Foreign Commerce Committee has toward oil matters—is under way. This new probe into the problems of the oil industry will be broader in scope than earlier hearings. Under the guidance of genial Clarence Lea, Representative from Santa Rosa, the House group intends to delve into the problems of rationing, manpower, prices, production, and other



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ELECTRIC MOTORS FOR OIL-WELL PUMPING

**Another advantage emphasized by war*

No other type of power unit requires so little attention to keep it in top operating condition as an electric motor. And because it runs smoothly and steadily, there is less wear on the machinery . . . fewer repairs and less maintenance time are required. The saving of equipment and man-hours means much in these days of shortages.

Electrically powered pumping equipment can be operated at the correct speed to exactly match the capacity of the well . . . no horsepower is wasted. Completely automatic operation, if desired, is another outstanding advantage of electric pumping, or you can start the motor by pushing a button.

At no obligation to you, an Edison oil field engineer will be glad to tell you all about electric oil well pumping.

Waste in war is a crime. . . . Do not waste electricity just because it is not rationed.

SOUTHERN CALIFORNIA EDISON COMPANY LTD.

current headaches.

The Elk Hills investigation, suspended before the summer recess of Congress, is due to start up all over again,—with strong indications that Representative Peterson of Georgia, chairman of the House Public Lands Committee, is loathe to give up the spot-light of publicity which arose from the charges of Assistant Attorney General Norman M. Littell.

Friends of Standard of California and the Navy Department are hoping, however, that the question of a new contract between the Navy and Standard will be taken up by the House Naval Affairs Committee, rather than the Public Lands group.

According to Peterson, "although at the present time Public Lands is going ahead with it, there's a chance that several committees will get into it." Peterson is "digging into" a lot of data submitted during the recess, he told California Oil World, and "digesting" the interim agreement under which Standard is operating the Elk Hills field on a 90-day basis . . . A new contract is in the mill which the Navy Department and the company hope will meet with the approval of the various Government agencies concerned.

While California and her neighbor states were jolted by the gasoline coupon reduction of Oct. 11, the West Coast—or rather Districts 4 and 5—gasoline situation is destined to become much worse in the coming months. Signs of a major military and naval push from the Pacific Coast against Japan have led to the prediction that it won't be many months before the shortage will require importations of gasoline for domestic use. This would mean, perhaps, even stricter control of civilian gasoline allotments than now exist in the critical East Coast area.

Watch for new trouble as regards the two principal Los Angeles and Southern California street railway systems, the Pacific Electric Railway Co. and the Los Angeles Railway Corp. At this writing, both companies are being kicked around in fine style by Economic Stabilization Director Vinson, the National War Labor Board and other agencies charged with a determination of the wage demands of their workers.

"Complete paralysis and utter chaos of transportation facilities in the entire southwestern area" was predicted by Col. John J. Lane, Army Transportation Division official, at the recent special emergency board hearings on the P. E. Railway case, if transportation of oil via the P. E. to industrial plants served exclusively by Richfield, Shell and Standard of Cal. is interrupted by strikes or walkouts.

Richfield supplies all fuel oil requirements of the Union Pacific Railroad, for their operations west of Salt Lake City, Col. Lane told the Board, while Standard furnishes approximately 40% of the Southern Pacific's requirements.

Continuous operations must be maintained by the Pacific Electric in both cases, or the two railroads "would be without fuel oil required for their locomotives in the area described within a period of five days, and the provision of this locomotive fuel could not be substituted from any other area," the Army transportation expert warned.

(Continued from Page 1)

secondary recovery—a subject which has been under intensive study by Institute production committees for the past several years. In view of impending shortages of crude oil for our fighting forces, the raising of a supplementary supply from the oil left in the reservoir, after present known or primary methods of flowing and pumping have brought up all they can, daily becomes more important.

An interesting feature of the Wednesday morning production group session will be a talk by Burt E Hull of War Emergency Pipelines, Inc., on the building of the "Big Inch," world's largest crude-oil pipe line.

General and group sessions, as at previous annual meetings, will be open to all oil men, whether they are members of the Institute or not. Everyone attending will be requested to register, for which there is no charge.

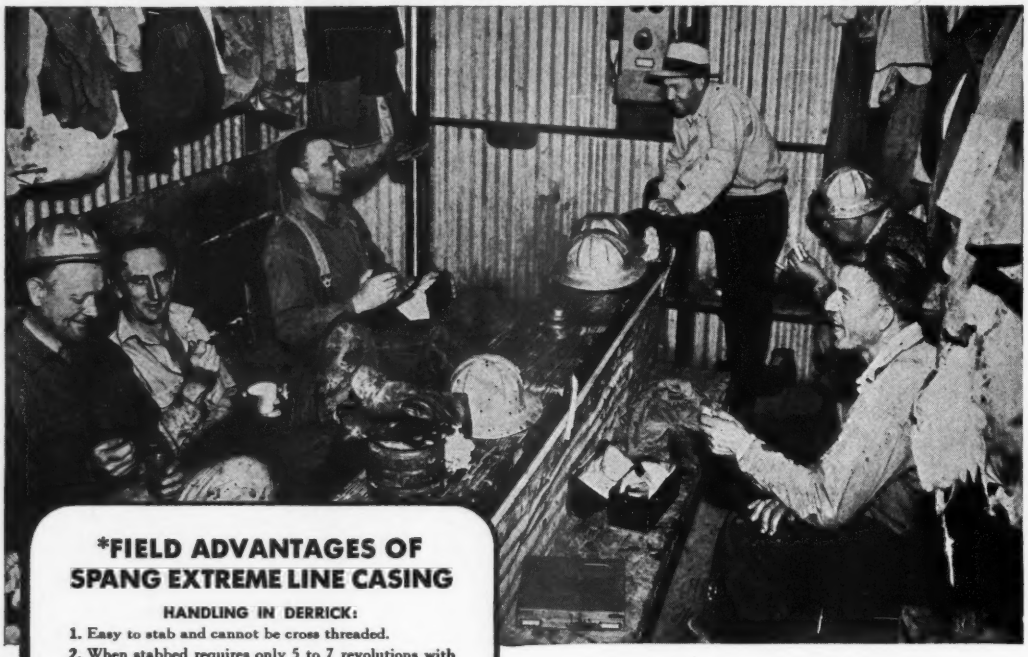
Approximately 50 Institute standing and special committees will meet throughout this second wartime convention, beginning Friday afternoon, November 5, through Thursday, November 11; but only those committees will meet whose work is directly contributing to the industry's war effort.

The Institute's Board of Directors will meet Wednesday morning, November 10, and the Executive Committee Thursday morning. A total of 55 directorships expires this year. The Board of Councillors, which will nominate 47 members for election to the Board of Directors to replace an equal number, will meet Wednesday morning; and their election by the membership will take place at the general session, Wednesday afternoon. The other 8 will be elected by the board itself.

At the close of their Thursday morning group sessions, the Divisions of Production and Refining will elect 20 members of their respective general committees.

The Institute's registration desk, which will be open throughout the meeting Monday morning through Thursday afternoon, will be in the foyer of the Grand Ball Room on the 4th floor of the Palmer House; and a press room for the convenience of the trade and general press will be provided in Room 402.

As at last year's meeting, there will be no annual dinner. On Wednesday night, November 10, visiting oil men and their friends will be invited to view two color motion pictures on oil in war—one of them on the "Big Inch" Pipe Line—to be shown in the Grand Ball Room of the Palmer House through courtesy of The Barrett Division, Allied Chemical and Dye Corp.



*FIELD ADVANTAGES OF SPANG EXTREME LINE CASING

HANDLING IN DERRICK:

1. Easy to stab and cannot be cross threaded.
2. When stabbed requires only 5 to 7 revolutions with spinning line (one pull on the cathead) and less than one turn (4 to 8 jerks) with the tongs.
3. End to shoulder contact insures proper makeup—cannot be harmfully overtonged (except intentionally).
4. Can be run at rate of 1,000 feet to 1,500 feet per hour, in range 3, as compared with 600 feet to 900 feet per hour for same range threaded and coupled casing.
5. Can be broken out and rerun with no rejections from galling or other injuries short of accidental denting.
6. Fluid seal protected by extending reinforcing ring.

LEAK RESISTANCE

100%—Pipe will collapse from external pressure or will expand beyond yield point from internal pressure without leakage at the joint; even when the pipe is subjected to heavy loads in bending or tension.

STREAMLINED

(Adeantages over threaded and coupled)

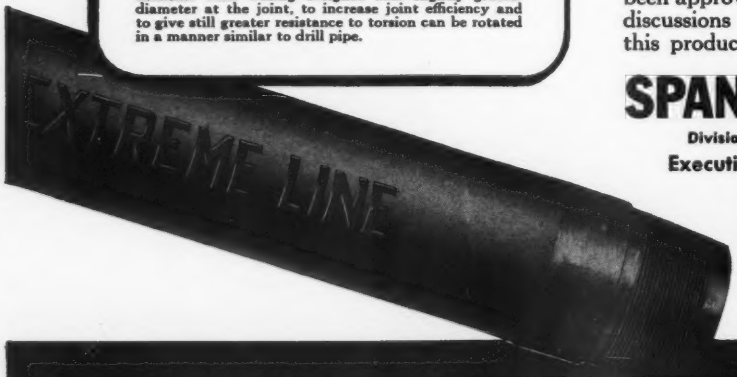
1. No shoulders to hang-up on projections in the hole, or to scrape mud seal from walls of the hole.
2. Low friction in running in or out of hole.
3. Requires less pressure, after setting, to "break circulation."
4. Smoother flow of cement and, therefore, greater certainty of a good job of cementing.
5. Can be run against pressure through packing.

WASHOVER PIPE

On account of very high torsional strength this joint is ideal for use in washing over stuck pipe and may be run and rerun many times.

DRILLING CASING

Extreme Line Casing designed with slightly greater diameter at the joint, to increase joint efficiency and to give still greater resistance to torsion can be rotated in a manner similar to drill pipe.



Café Society..

DOG HOUSE STYLE

● There's no caviar or pâté de fois gras on the menu in an oil field Dog House—just plain meat and potatoes. Conversation likewise is down to earth and factual. It is here that begrimed men of the oil field—the Black Gold authorities who really know—relax and talk about the merits of the equipment they use.

Their opinion, *based on working performance alone, is the very last word. The fact that Spang Extreme Line Casing has been approved in hundreds of Dog House discussions is the finest acceptance that this product could have.

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P. A. W. Issues Statement on Curtailment

A curtailment of between 10 and 15 per cent in civilian gasoline consumption in the Rocky Mountains and the Pacific Coast because of steadily increasing military demands and decreasing inventories of gasoline was ordered on Oct. 11 by Petroleum Administrator for War Harold L. Ickes.

The certification by the PAW to the Office of Price Administration for the fourth quarter of the year is 135,000 barrels a day for the Pacific Coast states and 34,000 barrels a day for the Rocky Mountain states. Total consumption in the two areas is now approximately 197,000 barrels a day, hence the reduction amounts to about 28,000 barrels a day, or less than 15 per cent.

The action thus brings the Far West into line with the rest of the country by limiting the supply of gasoline for civilians to the amount necessary for essential requirements with "due consideration for differences in needs because of local conditions," the PAW reported.

Administrator Ickes said:

"The inevitability of curtailment of civilian gasoline consumption in the Far Western states has been obvious to us for several months as we have learned more and more about the future military requirements, and we have been carefully watching consumption and inventories of gasoline.

"It is now unmistakably clear that to allow civilian consumption to continue at the present rate would, within only a few months, force gasoline inventories down precipitately to the point where it would be increasingly difficult and then impossible to operate. I have therefore certified to the OPA, by allocations to the Office of Defense Transportation, the Office of Civilian Requirements, and the War Food Administration, that no more than 169,000 barrels of gasoline a day can be made available for civilian consumption in those areas.

"The specific facts that make this necessary are plain. In 1942 the military requirements for gasoline represented 23 per cent of the total consumption in the Far West; as of today these mandatory demands have already increased to 43 per cent, and next year according to present estimates they will be equivalent to 52 per cent of all the gasoline available there.

"In the face of these accelerating demands which must be met, inventories of gasoline have been dropping at an alarming rate. If they were permitted to continue to decline at this rate, they would drop below the danger line of what the industry considers minimum working stocks within only a few months. No one wants to curtail civilian consumption less than I. It is done only because the physical facts demand it.

"Foreign sources are being used to an ever-greater degree, but the military requirements that in the past have been met from Pacific Coast supplies are increasing so heavily that the effect of foreign oil will be only to make up the difference that it will be impossible to furnish from domestic supplies. Foreign oil, unfortunately, just does not offer under present military plans an additional gasoline for West Coast civilians."

The overall curtailment in civilian gasoline consumption necessary in this area is also based upon recognition of the facts advanced by the Office of Defense Transportation, Deputy Petroleum Administrator Ralph K. Davies pointed out. He said:

"We all realize that in many parts of the Far West there are virtually no substitutes for automotive transportation, and the requests made by the ODT for somewhat higher gasoline allotments to take care of the areas that are entirely dependent on highway movements were agreed to without question by the PAW.

"As in the rest of the country, the total certification of available supplies includes other uses besides highway transportation. Included in the certification of 135,000 barrels a day for the three Pacific Coast states and Arizona and Nevada (the PAW District Five) are 120,000 barrels a day allocated to the ODT for highway use, and 15,000 barrels a day to the Office of Civilian Requirements and the War Food Administration for non-highway farm and industrial consumption.

"In the five Rocky Mountain states (District Four), 30,000 barrels a day are allocated to the ODT and 4,000 barrels a day to the OCR and the WFA. These volumes are sufficient to meet in full the essential requirements of agriculture and of all war industry.

"The necessity for action has been growing steadily. The production and refining of petroleum in District Five are now and have been growing steadily. The production and refining of petroleum in District Five are now and have been for some time at the maximum efficient rate. In determining the necessity for civilian gasoline curtailment the PAW took into consideration all possible factors, including the planned changes in operations within the area, which can only be minor, as well as the utilization of other source of petroleum supply, domestic and foreign.

"A reduction in civilian gasoline consumption to a point comparable with restrictions in effect throughout the rest of the country is the only possible answer. I am sure that the public will realize that in the face of the facts there is no other course open to us. Motorists in the Far West did their full part when gasoline was first rationed to save tires. Now they will, I know, just as patriotically make the sacrifice necessary to guarantee enough gasoline for our armed forces."

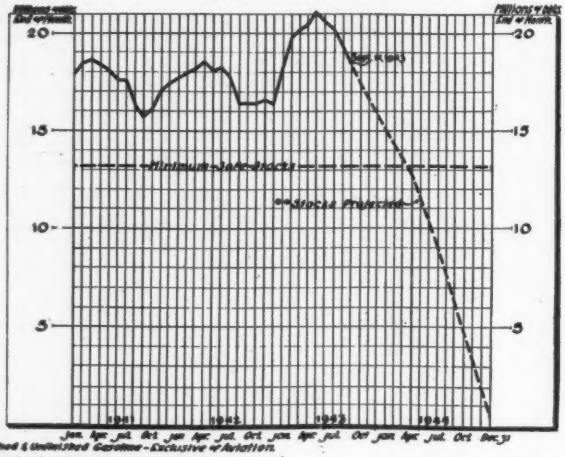
(The 10 states affected by the certification are Arizona, California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming.)

(See charts on page 8)

Signal Testing At Newport

Signal Oil and Gas Co. Banning No. 2, located west of the Newport Mesa bluff in section 20-6s-10w, is running a formation tester to set near bottom at 2651 ft. Test is located approximately 900 ft. northwest of the discovery well, Banning No. 1.

STOCKS — AUTOMOTIVE GASOLINE*
DISTRICT 5

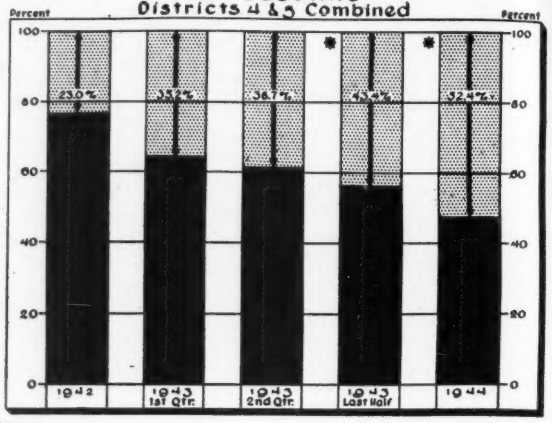


* Finished & Unfinished Gasoline - Exclusive of Aviation.
** Projected stock position unless civilian consumption is reduced, and supplies are supplemented from other sources.

Prepared by Graphics Unit - Office of Executive Secy.

Sept. 15, 1943
Petroleum Administration For War

Military Requirements vs. Civilian Consumption
— All Gasoline —
Districts 4 & 5 Combined

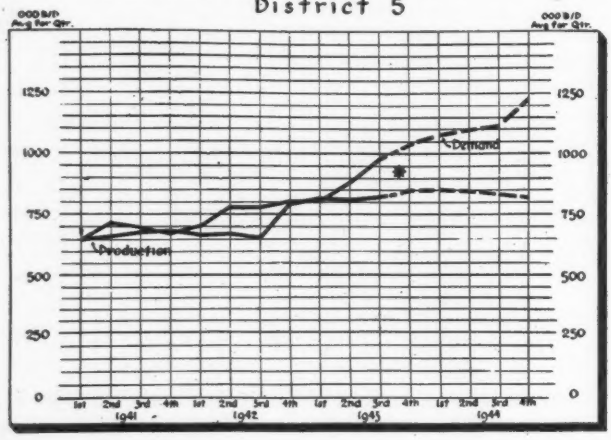


* Estimated
Military
Civilian

Prepared by Graphics Unit, Office of Executive Secy.

Sept. 15, 1943
Petroleum Administration For War

Production and Demand
Crude Oil and Natural Gasoline - Actual and Projected
District 5

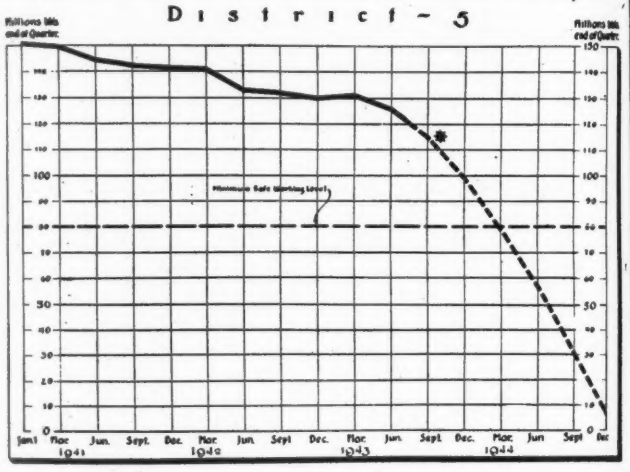


* Dashed lines for future period indicate estimated production and demand for 3rd Qtr. '43 - '44 based on present rate of civilian consumption.

Prepared by Graphics Unit - Office of Executive Secretary

Sept. 15, 1943
Petroleum Administration for War.

Stocks - Crude Oil and Products, Actual & Projected
District - 5


Millions bbls. end of Quarter
Minimum Safe Working Level
Jan'l Mar. Jun. Sept. Dec. Mar. Jun. Sept Dec. Mar. Jun. Sept. Dec. Mar. Jun Sept Dec
1941
1942
1943
1944

* Projected stock position unless civilian consumption is reduced and supplies are supplemented from other sources

Prepared by Graphics Unit, Office of Executive Secy.

Sept. 15, 1943
Petroleum Administration for War

Stocks of automotive gasoline are being heavily depleted and this drain will continue unless civilian consumption is reduced and additional supplies are obtained from other sources. This is what war is doing to our day-to-day supplies of gasoline on the Pacific Coast.

•

California production of basic crude oil and natural gasoline has not kept pace with demand for many months. The difference between production and demand must be drawn from storage.

Military requirements for gasoline are skyrocketing. Over four gallons of gasoline in every tin now produced west of the Rocky Mountains goes directly for fighting. Within the next 18 months, according to estimates of the Petroleum Administration for War, total war needs will jump to over half the total gasoline produced in the West or 52 per cent.

•

Stocks of crude oil and products on the Pacific Coast have declined steadily since Pearl Harbor. We are using more crude than California oil wells can produce and more products than California refineries are able to make from the available crude oil.

Recent Developments In Welded Refinery Equipment

By Russell J. Love
Chief Engineer
Southwest Welding & Mfg. Company

October Meeting

Petroleum refining used to be almost as simple as boiling sea water to recover salt. But today, the petroleum chemist is confronted with problems more complex than the separation of the magnesium, bromine, and iodine from the sea. Recent developments require the petrochemist to use not only extraction methods other than absorption and distillation, but also to use chemical and catalytic reactions involving many reagents other than the natural hydro-carbons.

New equipment has had to be developed for this new petroleum technology. This paper will describe some of the recently developed equipment. There will also be presented some of the details of construction, with particular reference to the materials used, and the various welding processes for joining these materials.

The separate types of equipment in a modern refinery are too numerous to treat individually. Furthermore, much repetition would occur were we to consider refinery equipment in terms of refinery processes, such as alkylation, polymerization, thermal and catalytic cracking, and so on. The most interesting aspects of recently developed equipment may be summarized as due to the increasing demands for:

1. Higher operating temperatures.
2. Higher operating pressures.
3. Larger pressure vessels.
4. Better resistance to corrosion and abrasion.

These four topics will be discussed separately, although the conditions represented often occur all together.

I. Higher Operating Temperatures.

Operating temperatures of 750 degrees F., and upward to 1100 degrees F. are more and more frequently encountered. Thermal cracking, for quite a few years past, has employed temperatures from 850 to 1000 degrees F. But some catalytic cracking processes now require operation at over 1000 degrees F. At these temperatures metals are actually red hot. And for operation at red heat, the selection of materials and the design of equipment must take into account the following factors:

A. The high temperature strength of the material. (Resistance to creep).
B. The possibility of temperature embrittlement.
C. The accelerated corrosion rates at high temperatures.

In meeting the three conditions (A, B, and C) present when high temperature is encountered, the materials used very greatly influence design of the equipment. Following are a few examples of design and fabrication considerations, as related to the material selected.

Straight carbon-molybdenum steel (ASTM A-204) may be selected for creep strength (factor A), but it may not satisfy conditions B or C. In other words, although the creep strength of carbon-moly is about twice that of carbon steel at 1000 degrees F., operating conditions at this temperature may induce temperature embrittlement, or the C-Mo steel may offer inadequate resistance to corrosion.

It has been found that the addition of chromium, even in relatively small amounts, to carbon-moly steel materially reduces the risk of temperature embrittlement, and may add to the creep resistance. As little as 1.25% chromium with 0.5% moly may be used to satisfy factor A **and** factor B. But this small amount of chromium usually is not sufficient to improve the corrosion resistance very much.

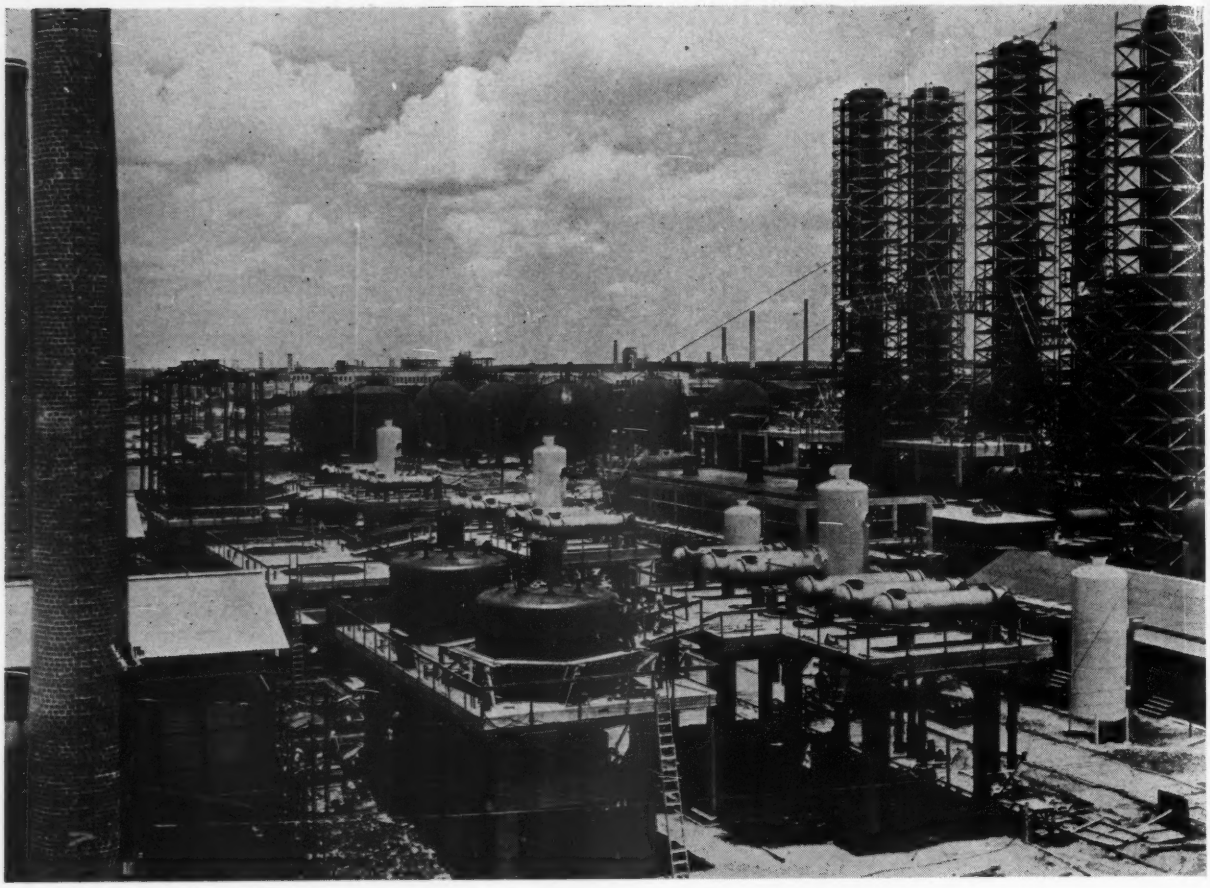
The high temperature corrosion problem alone has three distinct elements: First, atmospheric corrosion, which at lower temperatures is almost no problem at all; second, the special type of heat corrosion encountered in those cases where equipment is direct fired or in contact with hot furnace gases; and third, the corrosion due to the process fluids. A further discussion of the corrosion problem is included in the latter part of this paper.

When creep and embrittlement and corrosion are all expected, the economic solution is sometimes found in the use of plain carbon-moly steel for the pipe or vessel wall, to provide the necessary creep-strength, plus the use of a liner of high alloy material to resist the corrosion or embrittlement that the process fluid would otherwise cause. The various forms that the liner may take such as cladding, plating, or separately attached lining, will be discussed more in detail.

It is indeed fortunate that welding processes and techniques have been well developed for materials other than plain carbon steel. It is by virtue of the versatility of welding, that the alloy or composite materials often necessary for high operating temperatures, can be fabricated in the size and shape necessary for almost everything from simple pipe to complicated heat exchangers. Moreover, welded attachment of alloy linings, whether by fusion plug welding or by resistance spot welding, is often the most economical method of providing such linings. And when clad material is used, though it may be costly, the cost is minimized if fabricated by proper welding methods.

Designing equipment for high operating temperature involves perhaps the most complex combinations of low and high alloy materials. Accordingly, at this point we will tentatively postpone Topic No. 2, High Pressures, and Topic No. 3, Large Vessels, and some of the methods of welding alloy materials and composite materials will be mentioned.

It has been found that electric fusion welding is entirely satisfactory for most of the low-alloy steels, if proper welding rods are selected, and the special preheating precautions necessary in some cases are observed. There is one low-chrome alloy, however, that has been quite troublesome. It is the type 501 or type 502 stainless commonly called 4-6% chrome. This alloy has a marked tendency to air-harden in the temperature range around 500 degrees F., and any welding process employed is bound to create a tem-



General View of Large Butadiene Plant Built by Lummus.

perature gradient extending into this air hardening range, unless something is done about it. What usually has to be done, is to maintain a preheat temperature above the air hardening range and conduct all welding operations at or above, say, 500 degrees F.

Furthermore, the anneal necessary to stabilize the properties of this alloy must follow the welding without loss of the preheat temperature. In other words, to avoid the air hardening effect which may cause embrittlement or actual cracking of the material or the welds, a very elaborate setup is required, and much discomfort is involved for the welding operator. Because of these conditions, it is sometimes more practical to use the more expensive but easier to weld higher-chrome alloys, such as 11-13% chrome, even though a lower chromium content would satisfy the operating temperature or corrosion problem.

The welding complications just described are often alleviated by the use of good old-fashioned acetylene welding, with its wider heated zone in the vicinity of the joint, but this process does not provide much of a protective envelope over the weld being made. The atomic-hydrogen process is often superior, because it combines the ability to create a broad heating band, with a wellnigh perfect reducing atmosphere (the hydrogen envelope). Another welding process, the very recently developed Heliarc, or helium-envelope weld has not yet been applied to welding of the alloys encountered in modern refinery practice.

In connection with the fabrication of apparatus by welding, the details of the shaping and preparing of the edges to be welded, are very important. The design of welded joints will vary according to whether:

(a) The joint is to be made in the shop or in the field,

(b) The size of the part being welded—which may determine whether both inside and outside welding can be done, or whether all welding must be from the outside only,

(c) The thickness of the main wall, and

(d) Whether the wall is clad or lined.

Space does not permit a complete discussion of the many types of welded joints for composite materials, but it should be mentioned that whenever there is a considerable difference between the composition of the main wall, (the "parent metal") and the composition of the cladding or lining, **contamination** is a serious problem. Contamination, sometimes called dilution, means either

(1) detrimental dissolving of excess carbon from the carbon steel (or the dissolving of carbon steel itself) into the higher alloy steel, or,

(2) it may mean the contaminating effect of some of the alloying constituents migrating into the weld joining adjacent portions of the parent metal.

In case (2), the effect is usually bad because of the formation of an **imperfect** alloy in the weld itself which may seriously weaken the joint. It is obvious that the strength of the vessel or pipe is dependent upon the joint between the parent metal, because the strength of lining or cladding is seldom if ever taken into account in the design. The pressure-vessel Codes allow no credit for liners or the alloy portion of clad plates, in computing the strength of the vessel.

In case (1), the detrimental effect is primarily due to carbon pick-up spoiling the anti-corrosion properties of the alloy, or secondary effects such as checking.

Ia. Low Temperature Operations. While on the subject of temperature, and before proceeding to our discussion of high operating pressures, mention should be made of the present status of **low** operating temperatures in today's refineries. Although alkylation processes, and cold acid treating, and solvent extraction, all commonly use refrigeration, the low operating temperatures have not become materially worse from a design standpoint, than those low temperatures encountered some ten years ago in solvent dewaxing. At that time, investigations were made of the special design problems incidental to low operating temperatures (around minus 100 degrees F.), where the main question was that of impact strength, and where the generally acknowledged answer was the use of nickel steel, containing from 2½ to 4% nickel. Such steel was found to be weldable, and is still commonly used for low temperature applications. Now, still speaking of cold temperatures, we can only go down 460 degrees below zero F. and no lower. Up toward the other end of the thermometer, however, getting back to H.O.T., even 1000 degrees F. may not be the limit. According to one authority, thermal polymerization employs temperatures up to 1100 degrees F., and "tomorrow" the industry may need to go still higher.

II. High Pressure and Super-Pressure

It is almost obsolete to refer to an absorber working at over 400 p.s.i. as a "high pressure" absorber. Nowadays, one thinks of pressures from 750 to 1500 p.s.i. as high pressure, although the limits are very indefinite. Where high pressure ends and super-pressure begins is an open question. (Super-pressure is not just a funnypaper name, like Superman.) One authority considers pressures over 100 atmospheres, roughly 1500 p.s.i., and up to 50,000 p.s.i., to be super-pressures. Another states that the best definition is that we are dealing with super-pressure if the cylinder wall thickness exceeds 10% of the diameter. Suffice it to say that high pressures, 500 to 1500 p.s.i., are becoming quite common, and that full scale operation at 3000 p.s.i. is not unheard of, and that at least one Instrument Company has a well developed line of laboratory and pilot plant equipment for up to 50,000 lbs. per square inch.

Even for the moderately high pressures around 1000 p.s.i., the design of equipment must take into account many more factors than when dealing with only 100 p.s.i. The designer of high pressure equipment must consider:

1. Suitable materials; carbon steel or high strength alloys.
2. Size and shape factors; see figure 1 and below.
3. Type of construction
   a. Rolled and welded; single plate wall, or multiple layers.
   b. Seamless: forged, drawn, or cast, or bored from solid.
   c. Combinations of a. and b., such as welded attachments on a seamless shell.

These factors will be considered in the order presented above.

Selection of material for high pressure construction is almost always determined by making an economic balance between massive carbon steel and expensive alloy steel. This economic balance, however, involves more than simply material costs and fabrication costs; the availability and suitability of the material must be considered also. As in high temperature design, the action or reaction of the process fluid on the material is often of supreme importance. And if high pressure is accompanied by high temperature, all of the factors under each of these headings must be considered fully. Fortunately, the materials outlined under the preceding discussion of High Temperature, have higher-than-ordinary tensile strength, and hence are advantageous in meeting the requirements of high pressure. For example, carbon moly steel, often selected for high temperatures because of its better creep strength, is available in three grades A, B, and C, and has minimum (cold) tensile-strengths respectively of 65,000 p.s.i., 70,000 p.s.i., and 75,000 p.s.i. Another example is to make the main wall of the vessel of the strongest suitable inexpensive material, and employ a liner to meet the heat or chemical-corrosion problem. For instance, a fusion welding piping assembly (pipe fabricated by rolling and welding clad plates), uses carbon-moly base metal with 18-8 stainless cladding, the carbon-moly to provide strength at high temperatures, and the stainless to provide resistance to corrosion of the flowing catalyst.

When high pressure alone is being considered, uncomplicated by high temperature or severe corrosion, the lowest cost high strength steels are carbon-silicon (ASTM A94, A201, & A212) or carbon-manganese (A-225). Until sidetracked by the advent of the present war, the low alloy steels known as Corten, and Mayari-R, also provided a low cost high strength material, both easily workable and easily weldable.

In high-pressure vessels, shape and size are not mere factors of convenience. The process requirements for size may have to be modified to permit selection of an economic design. The cost per cubic foot becomes a matter of much money when pressures of 1500 p.s.i. and upward are encountered. Small diameters minimize the cost, but some reactions, particularly catalysis, may require as large an area as possible, hence the need for balance between the factors of size, shape, material, construction, and operation.

The type of construction to be employed in a vessel for high pressure will determine to some extent what materials may be employed. For instance, in seamless forged, or bored-from-the-solid, or cast vessels, high strength may be provided by high carbon content alone. Doing so, however, may preclude the possibility of making any attachment by welding. As has already been pointed out under High Temperature, carbon-moly, or the stainless steels, whether used as the main vessel-walls or as liners, can readily be welded.

Welding has also made possible some very interesting combination designs for high pressures, such as long-stroke pumps made by welding

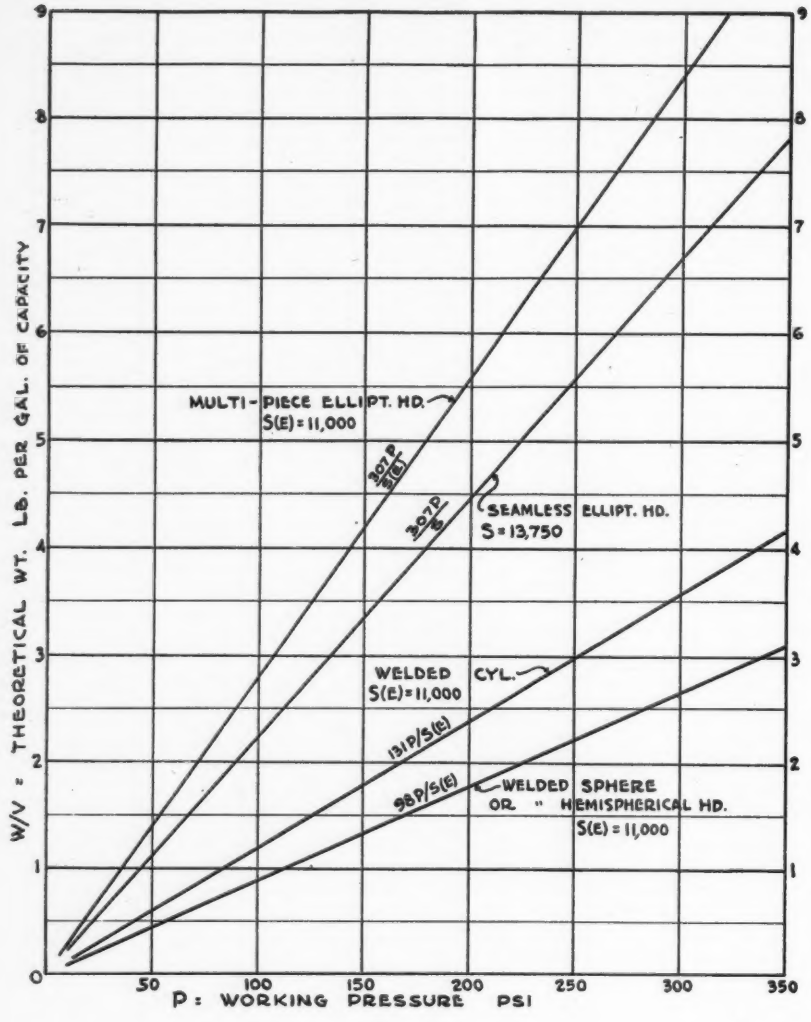


Fig. 1
Containers: Wt. per Unit Volume for various pressures.

two or more forged steel parts together; the welding of the outer barrels for Hydropress pumps, and the familiar examples of welding pressed heads onto seamless bored or forged cylinders, or of welding forged or cast steel nozzle flanges onto seamless necks.

Welding has made possible the recent development of multiple layer pressure vessels, an example being a vessel in hydrogenation service at high temperature; it is 36 inches inside diameter, built of 20 layers, for a working pressure of 3000 p.s.i. Whenever possible all connections leading into multiple-layer vessels are made through the head, inasmuch as nozzle attachment to the laminated shell is something of a problem.

Since the high pressures and super-pressures being discussed very often involve thickness-to-diameter ratios of over 10%, and when this relation exists specialized formulas should be used, figure 2 has been prepared to show the difference between the usual Barlow formula for computing ordinary pressure vessels, and the Lamé and other formulas for thick-walled vessels.

III. Supersize Equipment

Among the most outstanding, **literally** outstanding, features of the newer refineries, particularly those producing synthetic rubber ingredients and toluene, is the supersize of some of the vessels, and the structures for them. This is not only because of large throughputs or large outputs (some of the plants probably wish their outputs were larger), but because of the process requirements, viz: Superfractionation involves more and more trays which means higher and higher towers. Semi-batch processes require very large volumes to maintain some semblance of continuous flow with reasonable off-stream, on-stream cycles. And catalytic reactions often require catalyst beds with large areas or volumes.

The recently developed equipment and apparatus exemplifying supersize can best be described by citing a few case histories as follows:

Case I

A Deisopentanizer tower now being built is 96 inches diameter by 175 feet high overall, contains 70 bubble trays, and weighs 150,000 pounds **without** the trays. It is designed to be self-supporting, having an extended base heavily reinforced. Although the topmost part of the shell is only ⅜ inches thick, such factors as resistance to earthquake, hydrostatic loads and wind loads require that the shell be thicker and thicker toward the base, and we find the thickness of the lowest course to be 1 3/16 inches. In fact, the thickness-to-diameter ratio of the lower 68 feet of the shell height is such that that portion must be stress relieved to comply with the API ASME Code. This is truly a super fractionator.

Case II

Very tall bubble towers, even though nominally self-supporting by virtue of properly designed bases, may suffer troublesome vibration if they are very slender. Typical of the modern treatment of this problem, is the case of a deisopentanizer column only 4 feet diameter but 90 feet high, which required bracing. Instead of a multiplicity of guy wires attached at various elevations, and which would have formed a network overhead, it was decided to use harmonic sway bracing, consisting of three trusses equally spaced around the circumference of the tower. Each truss consisted of a steel cable attached at the top and bottom of the tower by welded clips, and each cable was spread at the center by a 3 foot strut. Singing, or vibration of the truss wires themselves is avoided by using vibration dampeners between the turnbuckle and the attachment at the bottom of the column.

Case III

A typical reactor for a fluid catalyst cracking unit is 27 feet diameter by 87 feet high, having 50 feet of this height the full 27 diameter. The top head is a 90 degree cone,

the bottom head is similar except that it has a 10 foot diameter by 13 foot deep sump appended. The main support ring is at the bottom of the 27 foot shell, where the vessel rests on a special elevated structural support. The main shell is 1½ inches thick, the cone heads 2 inches thick, and the entire vessel is made of Pluramelt (a clad plate, in this case with 20 per cent type 347 stainless on the inside, the remaining 80 per cent being carbon-silicon high tensile plate.) Although the operating pressure is low, the operating temperature is about 1000 degrees F. The required stress relief was the subject of debate: whether to stress relieve in the field by building a fire inside, or whether to let the 1000 degree operating temperature do the trick.

Case IV

A typical catalyst regenerator operates at 1100 degrees F. (red hot), is 42 feet in diameter by 35 feet straight shell, and has a 90 degree cone bottom. The top is a practical combination of cone and dome, having about 2/3 composed of 90 degree cone, and the upper 1/3 bridged over with a portion of a sphere. Just a chamber, having no internal parts, but being constructed of 1 inch plate for the shell and 1¼ inch plate for the cones, it weighs over 200 tons empty.

Because the catalyst flow from this regenerator is by gravity, this whole vessel is mounted at the topmost part of a structure built like a 20-story building. The operating temperature (1100 degrees F.) will do the stress relieving.

Case V

Typical catalyst hoppers are 30 or 32 feet diameter by about 80 feet high overall, and have conical bottoms and full hemispherical top heads. Design is for 5 p.s.i. working pressure at 650 degrees F. As in the case of very tall fractionating towers, the shell thickness varies from top to bottom. These hoppers are about ½ inch thick at the top and each course of shell plate, proceeding downward, is usually 1/16 to ⅛ inch thicker, making the bottom course about 1 inch.

Case VI

Although standard API storage tanks continue to be generally used, with cone roofs or floating roofs, for storage of low vapor pressure fluids, there has been an interesting

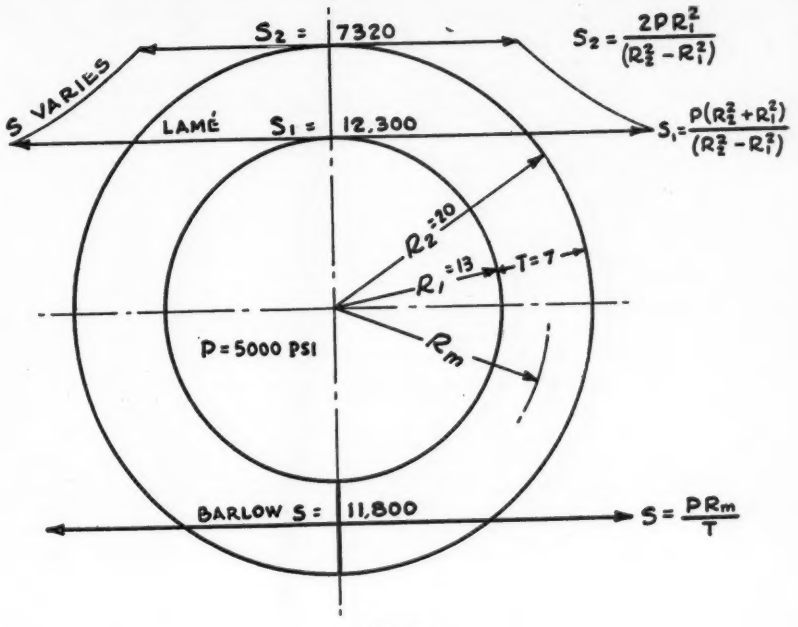


Fig. 2
Stresses in a Thick-walled cylinder.

development of containers for high vapor pressure fluids. Spheres and spheroids, are adaptable to pressures from 10 to 100 p.s.i., and volumes up to tens of thousands of barrels. Large diameter vertical pressure containers have been used, and supersize horizontal cylindrical tanks and are now being constructed for pressure storage of liquids. An example of a recently developed special design of horizontal pressure tank of large capacity is located in the Los Angeles area. It is 38 feet in diameter by 114 feet long, for a working pressure of 60 p.s.i. The novel feature is the method of support. Instead of two piers or cradles, which would require two ring girders to maintain the tank round at the points of support, and would involve sliding bearings or rockers at one end to allow for expansion, a central support is used. The ring girder at this point is inside of the tank shell, and so the whole thing looks like a blimp almost floating in mid-air. The advantages, of course, are freedom to expand and contract, or to curve under the differential heating of the sun's rays, and, it is claimed, ease of field erection resulting in low cost per gallon of contents. Reference to figure 1 will show that, in comparison to spherical containers, the cylindrical type is not at such a disadvantage as many believe. Just because for a given pressure and diameter a sphere needs to be only half as thick as a cylinder, does not mean that the weight or cost of a sphere will be half that of a cylindrical tank for a given capacity.

The transportation and construction problems in building supersize vessels are many. Super fractionators often require shipment in two or more sections, to be joined by welding in the field, usually before erection. The gargantuan catalyst equipment obviously cannot be shipped fully assembled. Erection becomes a matter of assembling, plate by plate, the individual pieces after prefabrication and transporting to the site. Even so, rather heavy lifts are involved in building those vessels with plate thickness over 1 inch, e.g., an 1½ inch plate 8 feet wide by 30 feet long weighs 15,000 pounds, and such plates must be lifted to fantastic heights to assemble a catalytic reactor, say, on the fourteenth floor of the building. Field welding of these vessels, as is evident from the construction details given in the case histories, may involve all of the problems connected with welding of composite materials as discussed under the topic of high temperature. Doing such welding in the field means that every precaution must be taken to insure the safety both of the men and materials during construction, and also safety of operation of the finished vessel.

IV. Corrosion and Abrasion

All of the "old" corrosion prob-

lems are still with us, and a host of new ones are at hand. As has already been mentioned, any or all corrosion is aggravated by the higher temperatures of operation. Many of the old corrosion problems were adequately solved by simply providing extra metal for corrosion allowance. Most of the new corrosion "gremlins" are not stopped that easily. The prevention of chemical attack, of heat or stress corrosion, of embrittlement, and of hydrogen penetration, may require the most expensive materials and the best fabrication knowledge available. Do not expect this brief study of equipment to answer all your corrosion questions. Just a few of the things that are being done will be reviewed; some of these things are only trial attempts to find out the answers.

The use of substances heretofore foreign to refinery operations requires the careful adaptation of materials equally foreign to the usual refinery experience. Here are a few examples.

Hydrochloric acid may occur in such form and such concentrations that only a very high alloy like Hastelloy will endure. In one such case, a liner of Hastelloy is installed in the lower section and bottom cone of a tower, and also within the necks of certain nozzles. Attachment is by plug welding, except that small diameter nozzles may be of solid Hastelloy. Because this alloy costs several times as much as 18-8 stainless steel, its use is generally limited to zones of expected corrosion where nothing else will do. In welding Hastelloy the welds tend to be porous; remelting of the weld in a carefully controlled atmosphere boils out the porosity and gives a smooth bead. The atomic-hydrogen arc is especially well suited to this "sealing" operation, but the acetylene flame also can be used successfully.

Anhydrous hydrofluoric acid is another of the newcomers. When most of us were first introduced to hydrofluoric, we learned the salient property was that it couldn't be kept in glass bottles, and this property has earned for HF an undeservedly bad reputation for supercorrosion. Just like concentrated H_2SO_4, and anhydrous HCl, according to C. M. Fehr, anhydrous HF can be tolerated by any good steel. By contrast, at concentrations over 65 per cent it attacks lead rapidly. Welded or cast steel equipment, therefore, may be used, but be sure that the acid is known to be anhydrous, or nearly so.

Ammonia is not only a refrigerant but also is a reagent or catalyst, as in modern Toluene plants. Some of us may need the reminder not to use brass or copper in ammonia's presence, not even to braze a cracked compressor head, if the ammonia is to be held.

Hydrogen sulfide, no newcomer to the group of corrosion gremlins, nevertheless brings new headaches when it appears in some of the new processes. In one case where H_2S was present at a temperature of 900° F., the piping and accessories had to be stainless steel, 18-8 with 3 per cent Moly. In another case, this insidious compound H_2S had to be got rid of because it acted as a poison spoiling the action of phosphoric acid as the catalyst in making of polymer gasoline. In absorbing or otherwise separating H_2S from a gas stream, a weak acid may be formed and lead (if temperature permits) lining may be needed to avoid this corrosion.

The non-ferrous materials, notably copper and Everdur, Monel, Inconel, and nickel are becoming increasingly useful in meeting new conditions of corrosion, or in some cases conditions requiring non-contamination of the products by iron. Fortunately, the chemical process and food industries in solving similar problems caused the development of dependable methods of working these non-ferrous materials into exchangers, pressure vessels, etc. This "know how" will be very useful to the new petro-chemical industry.

Some reactions with the metal walls of equipment cause chemical deterioration of ordinary materials of construction. Caustic embrittlement is one; the new processes are bringing more similar, like hydrogen attack.

Many of the newer cracking and reforming operations involve dehydrogenation. In these, as well as in the direct hydrogenation process, the presence of free hydrogen may cause the phenomenon known as hydrogen penetration. This causes progressive deterioration of the steel and to date, (I am told) no fully satisfactory remedy has been found. Vessels have been made with walls twice as thick as would otherwise be required but the hydrogen seeps through.

Now, a word about abrasion. Without referring too specifically to the mechanism of the several new catalytic processes, it may be said that at least two of them use finely divided solids as catalysts, and these fine solids are caused to flow in suspension in fluids. During this flow, and in the subsequent separation (in one process) the solid particles act abrasively. Equipment handling this mixed flow condition may be either of abrasive-resistant material like the workable low manganese alloy steels, or, the anti-corrosion claddings or liners, by virtue of their generally better physical properties —hardness and tensile strength— may offer long enough life to get by. And if temperature permits, we should not overlook the fact that rubber linings, good for both abrasion and/or corrosion, are available on high priority.

Elmer R. Smith Returns from S. America

Elmer R. Smith, export engineering representative of Lane-Wells Company of Los Angeles has completed an extended trip through South American oil fields. His trip covered Peru, Venezula, Columbia, Trinidad, and Mexico, and was made in the interest of Lane-Wells South American oil field operations and associated activities.

PIWC Urges Derrickmen Added to "Critical Occupations"

The Petroleum Industry War Council has adopted a resolution requesting that War Manpower Commission be urged to add derrickmen, firemen, floormen, and pumpers to the list of "critical occupations." In a report made to the Council by its Committee on Production, the Committee said the manpower shortage is becoming critical and the small producers are especially hit. Oil well pumpers, an essential operation in the oil fields, are particularly scarce, and it is stated that an appreciable percentage of them are fathers between the ages of 18 and 38 and are subject to the draft.

In 1851, the first artificial eyes were manufactured in New York City by Pierre Gougelman.

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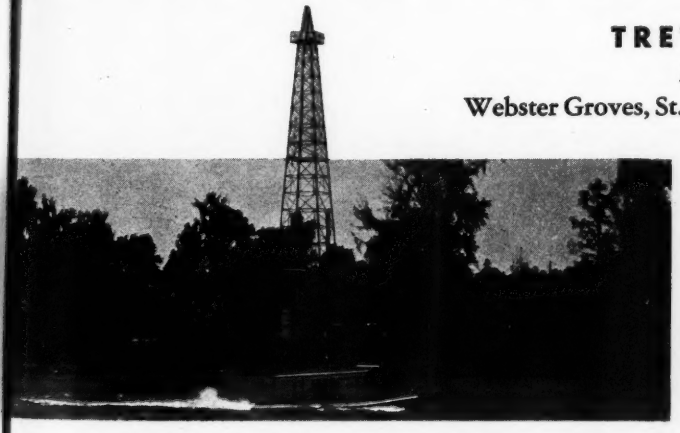

Tret-O-lite service representatives don't burn any rubber on these "roads."

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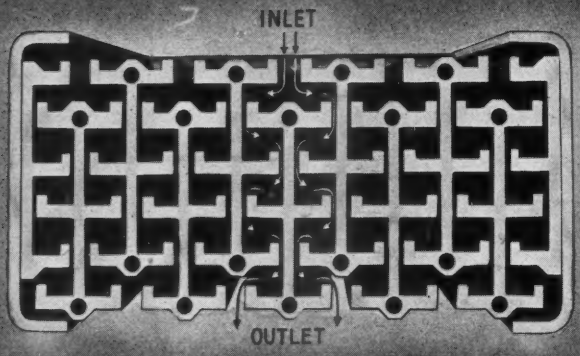
DEHYDRATING DESALTING

New separator unit knocks out gas-entrained liquids and solids



THE HEART of the new Fluor Gas Cleaners is the separator element, shown above. These scientifically designed baffles say "stop" to entrained liquids and solids in gas streams. All three types of Fluor Cleaners,—the vertical liquid removal type, the horizontal liquid removal type, and the vertical solids removal type,—employ this highly efficient separator.

The simplicity of the separator's operation makes its efficiency easy to understand. The element is ruggedly constructed of a non-corrosive material that allows development of the minimum angle of incidence between the surface and impinged liquid particles. Note how the positioning of the T-faced web forms a maze, forcing the gas stream to repeatedly change direction of flow. Inertia causes separation of entrained liquids and impingement on the web faces.

The New Fluor Gas Gleaners have been built for a long life and continuous and trouble-free operation. A new Bulletin completely describes and illustrates all 3 models and their operation. Write for your copies today. No obligation.

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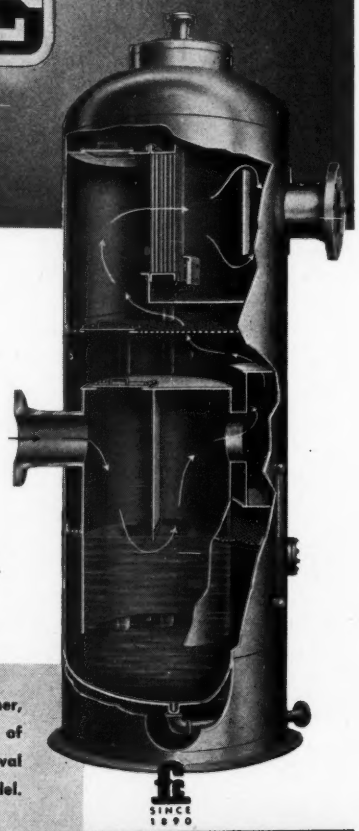
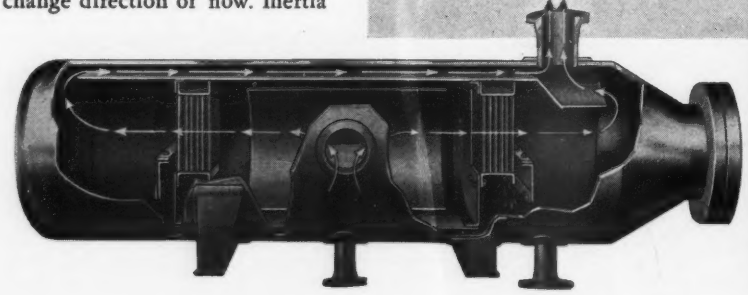


At right: Cutaway view of Fluor Gas Cleaner, Solids Removal Type. Below: Cutaway view of Fluor Gas Cleaner, Horizontal Liquid Removal Type; this type is also made in a Vertical model.



FLUOR GAS CLEANERS

C. N. G. A. 18th Annual Meeting

Themed to the presentation of a series of technical papers dealing with related problems of refinery and natural gasoline plant operation, members of the California Natural Gasoline Association will gather for their 18th annual All Day Fall Technical Meeting in the Biltmore Hotel, Friday, November 5. The event will feature morning, afternoon and evening sessions with refinery and natural gasoline men from all over the state in attendance.

Representing the Honorable Harold L. Ickes, Petroleum Administrator for War, James E. Pew, Assistant Director, Natural Gas and Gasoline Division, Petroleum Administration for War will present the feature paper titled: "Cycling Operations and Potential Use of Products." With the trend toward cycling operations now commanding major interest in California, as is evidenced by construction of the first cycling plant, Pew will draw on the vast experience of the Mid-Continent with cycling operations, pointing with particular reference to their meaning to future California refinery and natural gasoline plant operations and products.

The morning session will open with registration between the hours of 9:00 and 10:00 A.M. Clare Gard, Union Oil Co. of Calif., will preside as chairman with "The Absorption Factor in Controlling the Absorption Process" as the first paper. This will be given by Randall Maass, refinery engineer, General Petroleum Corp. of Calif. The speaker will briefly review the origin of the absorption factor and suggest several methods of using that factor in the control of absorbers with the subject of absorber control when treating very rich gases given considerable consideration.

Dr. A. H. Boultbee, chief technologist, Wilmington refinery, Shell Oil Co., will present the second and final paper of the morning session title "Uses of Natural Gas Fractions in Today's Refinery Operations." Pointing to the fact that the fractions separated from natural gas are becoming increasingly more essential in wartime refining, the speaker will enumerate and describe the several ways in which these fractions are utilized in today's complex refining operations. Adjournment for luncheon will follow presentation of this paper.

R. W. Heath
(President C.N.G.A.)

P. S. Magruder, General Petroleum Corp. of Calif. will act as chairman of the afternoon session and will introduce R. W. Heath, Signal Oil and Gas Co. and president of California Natural Gasoline Association who will present a short address just prior to the presentation of the paper by Messrs. Poe and Pew.

The second afternoon paper is titled "Refinery Processes for War Products," jointly authored by F. D. Parker, chief process engineer, and E. G. Ragatz, process engineer, Bechtel-McCone-Parsons Corp. The authors will discuss the heavy oil refining processes and their presentation is a companion paper to that presented during the morning session by Dr. Boultbee. In continuation, the authors, will show how these processes contribute to the war effort and particularly how they contribute to the processes utilizing natural gas fractions.

L. F. Scheel, production foreman, Union Oil Co. of Calif., will deliver the final paper of the day under the title of A Maintenance Program for Compressor Plant Operators." For some time past, the California Natural Gasoline Association has sponsored a compressor operators exchange program designed to facilitate the exchange of operating ideas. This paper presents the fruits of that exchange together with the author's own experience. He will present and review the essential features of a good operating program designed to reduce maintenance costs and the outline for a periodic inspection and maintenance program.

The evening session will feature the association's annual banquet at 7 o'clock. Following dinner the members will gather for the regular stag show which will be staged this year by Kenneth Harlan, well known motion picture star, who will present the line of Harlan Co-Eds who were the feature of the association's June Frolic. Banquet tickets are $5.00 per plate and must be obtained in advance.

Members of the Fall Meeting Committee are:

Randall Maass, Chairman, General Petroleum Corp.; R. R. Crippen, The Texas Company; H. A. Dresser, The Fluor Corp., Ltd.; Glen Hile, Standard Oil Co.; J. H. Kunkel, The Fluor Corp., Ltd.; D. A. McFaddin, Union Oil Co.; H. Saueressig, So. Cal. Gas Co.; G. L. Tyler, C. N. G. A.

Members of the Entertainment are:

H. A. Dresser, Chairman, The Fluor Corp. Ltd.; H. Armstrong, The Lummus Co.; Coles Bason, Ingersoll-Rand Co.; Gordon Greene, Robinson Orifice Fitting Co.; Lloyd Jones, Cooper-Bessemer Co.; J. B. Tayor, Signal Oil & Gas Co.; Waldo Wilbern, Daniel Orifice Fitting Co.

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We have made tremendous progress on our backlog of orders and within a few weeks, if not by the time this message appears, we will be largely in the clear on critical steel valves. We will then have open capacity to handle new steel valve business in the sequence received, subject, of course, to the priority rating assigned.

NEED VALVES AT ONCE? Right now we have available manufacturing facilities that are not suited to the production of steel valves and we can effect immediate stock delivery of Nordstrom Semi-Steel Valves in certain sizes and figure numbers.

AIM ...YOUR SIGHTS NOW ON LATE 1943 AND FIRST QUARTER 1944 CONSTRUCTION

Those booking orders now, in anticipation of late 1943 and early 1944 valve requirements will have first call on our facilities. Immediate action on your part is desirable so that we may establish firm delivery dates based upon amply foreseen needs for materials and carefully predicated manufacturing schedules.

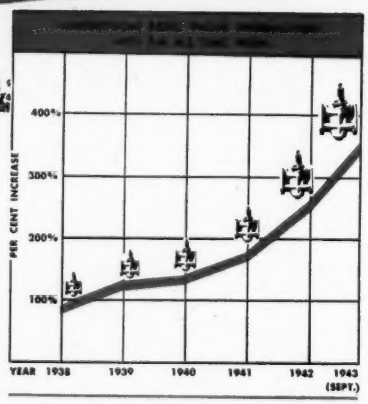
FIRE ...YOUR INQUIRIES AND ORDERS AT US

We can handle your immediate business in many lines and orders for Nordstrom Valves of any type can be accepted with excellent prospect of delivery within a maximum of ninety days after receipt of firm specifications. The WPB lead factor for cast steel valves is 90 days.

Merco Nordstrom Valve Company, in common with the entire valve industry, is emerging from a very trying period. Earlier this year the need for valves in vital wartime industries greatly exceeded all available facilities. Nordstrom was ordered to produce 600% over normal capacity during a short period and then was confronted with shortages ranging from man-power and machine tools through storage facilities and materials. These handicaps, we are pleased to report, have now been largely eliminated—thanks to a realization on the part of the War Production Board of the indispensable and unique position occupied by Nordstrom Valves.

Our tonnage of cast steel Nordstrom Valves has shown a progressive increase month by month. Our plant capacity is now geared to a production rate never before attained in our history. We know of no other valve company that has had a greater load thrust upon it or has used more vigorous efforts to satisfy the demands of their customers.

Out of all this has come a stronger more integral Nordstrom organization —one capable of handling the immediate needs of today and with adequate post-war facilities to service an increasing circle of Nordstrom Valve users.



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NORDSTROM VALVES KEEP UPKEEP DOWN

Petroleum Price Increase is Viewed as a National Necessity

The public is willing to absorb increased consumer costs if by so doing it will make available more gasoline and oil products, and refusal to permit an average raise in price ceiling on crude oil now disregards the military and civilian welfare of the nation, William R. Boyd, Jr., Chairman of the Petroleum Industry War Council, said recently.

From a profit point of view, Mr. Boyd emphasized that a comparison of income of the petroleum industry with other industries reveals that a reasonable price increase for petroleum products affords a justifiable means of achieving equity. He explained that net profits of oil companies now would be greater by 20 per cent if they enjoyed the average rate of return of 8.4% permitted other industries.

He cited the latest findings of the council's committee on cost and price adjustment which contend that:

"Economic justification for a price increase is simple, when stripped of its complex ramification.

"The present and visible supply of crude petroleum is inadequate to meet the expected demand. At present prices exploratory drilling activity is not finding a barrel of oil to replace each one now being produced.

"With greatly increased demand for petroleum, new reserves should be found, not only to replace each barrel being produced, but enough must be discovered to meet the demand without resorting to wasteful production methods. At the existing price level drilling activity is inadequate to produce the needed new reserves.

"Consumers should be called upon, even in a period of price control, to pay the higher cost of providing the supply they need.

"They do not buy crude oil. Refiners buy crude oil. But refiners cannot pay 35c per barrel more for crude oil, their raw material, unless they receive more per barrel for products derived."

Mr. Boyd based his observations on a report of PIWC's committee on cost and price adjustment after the committee, headed by John D. Gill of the Atlantic Refining Co., Philadelphia, Pa., had scrutinized carefully the petroleum industry's price structure and productive possibilities under the impact of war.

Petroleum Administrator for War Harold L. Ickes has recommended to the Office of Price Administration an average crude oil price increase of 35c per barrel. The Petroleum Industry War Council, an industrial advisory group, was established by Administrator Ickes.

Mr. Boyd revealed that PIWC's committee determined in its study that:

"As a matter of experience of marketers in the petroleum industry, the consuming public by and large would be very willing to pay higher prices requisite to an assurance of supply of products so necessary to a maintenance of conveniences and comforts which in war-time America are considered not only desirable but essential.

"A crude price increase of 35c per barrel, and its equivalent gasoline price increase of 85c per gallon, are indeed nominal increases, without serious implication to the maintenance of the president's anti-inflationary policy.

"Actually the public does not purchase crude oil and is not directly concerned with the 35c per barrel crude oil increase. It is concerned with increases in oil products when measured in gallons of gasoline."

The committee reported that the petroleum industry's net profit as a per cent of new worth to be 6.9% for the first six months of 1943, compared with 5.9% for the same months of 1942, and concluded that this is an inadequate improvement.

"It must be admitted that when profits of our industry are compared with profits of other industries, a reasonable price increase for petroleum products appears to be the only means of achieving equity," the committee concluded.

"If oil companies enjoyed the average rate of return of 8.4% permitted other industries, their present net profits would be more than 20% greater."

Crude oil, it contended, has not only failed to keep pace with other commodities in price increases, but petroleum products have advanced less in price than other important commodity groups. It cited house furnishings, building materials, hides and leather, foods, textiles and farm products as having advanced two to six times as much in price as petroleum products.

In conformity with the committee's findings, Chairman Boyd asserted:

"The industry would be derelict in duty if it did not insist upon a level of prices for crude oil and its products high enough to insure maximum production.

"It is a very big undertaking to provide all the oil that is required to fight the war, to supply current essential civilian needs, and to meet post war demands. The petroleum industry is straining at the traces to meet production demands in a situation where costs are higher and where crude petroleum at an average price of $1.19 per barrel is 77% of the 1916-20 price; 76% of the 1921-25 price; 87% of the 1926-30 price, and only 7% above the 1936-39 prices."

Monterey Cat Going Slow

In the Bradley area of Monterey County Royalty Service Corp. Federal No. 1 is drilling ahead and spot coring at 5976 ft. Located on section 21-24s-10e, the well has found the last 800 ft. to be largely very dark dark brown shale.

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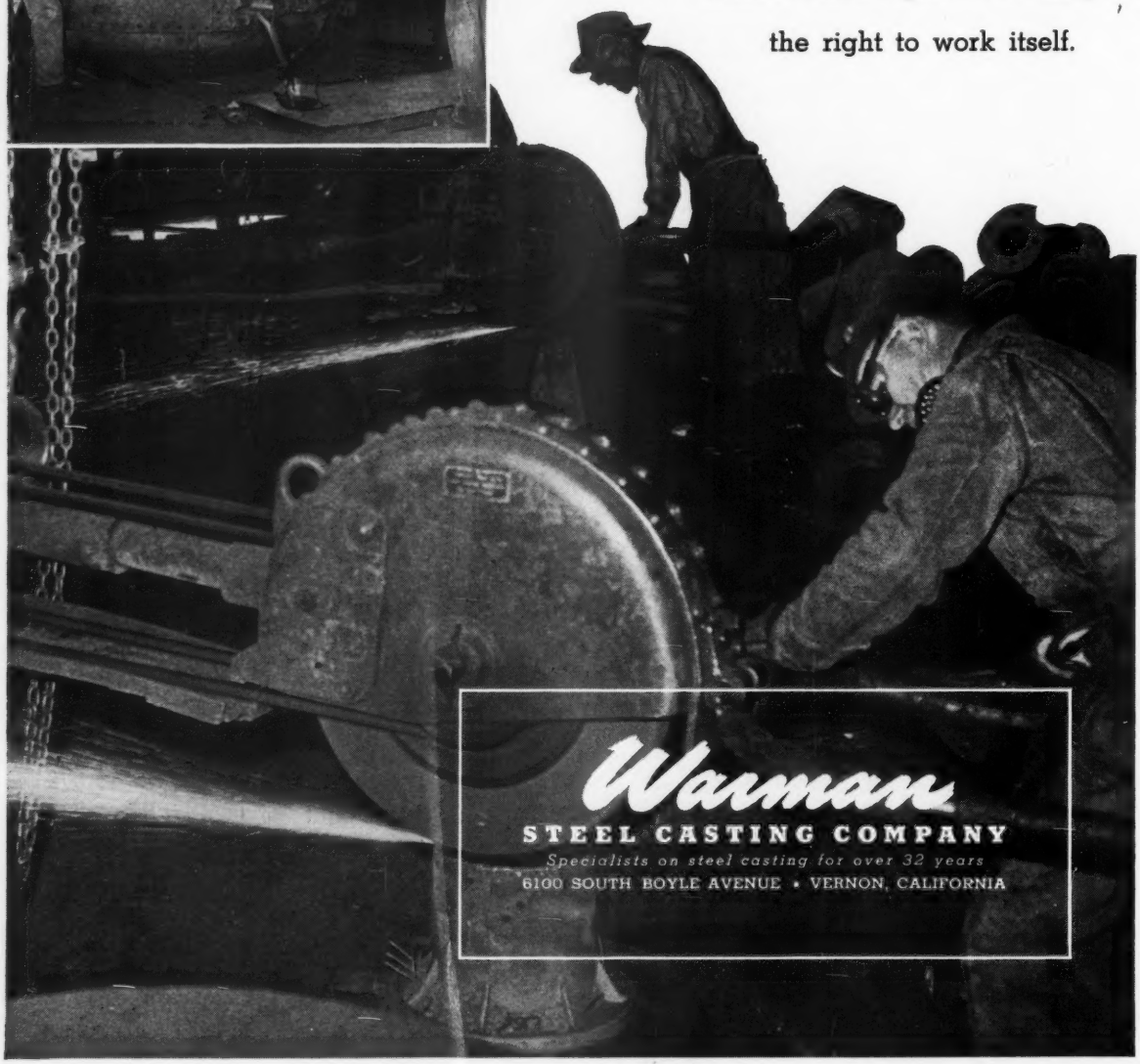

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Field Development

Los Angeles Basin

Newhall Cat Abandoned

P. M. Girard Fisher-Wosk No. 1, easterly extension test of the Newhall-Potrero field, was abandoned after drilling to a total depth of 7851 ft. There were no showings worthy of a test encountered. Hole is located in section 6-3n-16w.

Rice Canyon Test Continues

In the Rice Canyon area General Petroleum Corp. is drilling ahead at 6520 ft. in its Mendota No. 1. Located in section 22-3n-16w, the well has encountered several good showings however all tests made to date have recovered only very small amounts of oil.

Macmillan To Drill West of Pomona

Macmillan Pet. Corp. is grading location for a wildcat test approximately 3 miles west of Pomona. Try will be known as Walnut Creek No. 1. Reported location is 300 ft. north and 450 ft. east from the center of section 22-1s-19w.

Temescal Cat In Shale

The Texas Co. Dominguez No. 57-1 in section 1-4n-18w on the easterly plunge of the Temescal Anticline, is coring ahead in steeply dipping hard shale below 7200 ft. Slow progress has been due to several difficult fishing jobs.

Brea Field Extended

Shell Oil Co., Inc., has extended the known producing limits of the Brea Olinda field to the northwest. Located in section 2-3s-10w about 900 ft. from the nearest producing well, its total depth was 5350 ft. in fair oil sand. 7 inch casing was cemented at 4615 ft. and a 5½ inch perforated liner landed at 5347 ft. On pumping test of this zone the well averaged 30 barrels per day clean oil cutting 90 per cent salt water. A Water Witch run showed entry of fluid to be in the bottom 100 ft. of zone. Hole was plugged to 5200 ft. and the well recompleted on pump for an initial production of 262 barrels per day of 28 gravity oil cutting 5 per cent mud. Southeast from this well, in section 7-3s-9w, Union Oil Co. is drilling ahead in Naranjal No. 16 below 1000 ft.

Dumm Bros. Drilling

Dumm Bros. Petroleum Corp. Redondo No. 1, northerly extension test in the Torrance-Hermosa area, is drilling ahead below 2450 ft. Considerable trouble is being experienced with circulation due to the small amount of conductor pipe set in the hole.

Standard at West Coyote

Standard Oil Co. Emery No. 73 is rigging up. Emery No. 74 has been bottomed at 5795 ft. with a 7 inch water string cemented at 5313 ft. and a 5½ inch perforated liner landed at 5793 ft. The well is now preparing to pump.

Del Valle Field Outpost Testing

Bankline Oil Co. Sterry No. 101, section 18-4n-17w northwesterly outpost well bottomed at 5073 ft. in poor oil sand. Hole was plugged to 4540 ft. and 6⅝ inch casing cemented at 4540 ft. The casing will be gun perforated and well completed from a previously tested zone between 4460 ft. and 4495 ft. The company is now making water shut off tests above and below this interval. One half mile west of this well the operator is grading location for Orduno No. 103.

LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
Aliso Canyon	Barnsdall-Bandini Pet. Co., Roosa	1	29, 3-16		Grading roads
	Standard Oil Co., Frew	1-1	29, 3-16	5632	Abandoned
	Standard Oil Co., Frew	1-2	29, 3-16		Rigging up
	Standard Oil Co., Del-Aliso	1	29, 3-16		Grade
Del Valle	Standard Oil Co., N.L. & F.	3-1	19, 4-17	6079	Reaming
Las Llajas	Western Gulf Oil Co., Brady	1	13, 3-17	9807	Abandoned
Newhall	P. M. Girard, Fisher-Wosk	1	6, 3-16	7851	Abandoned
Norwalk	Gen. Pet. Corp., H. B. Allen	1	12, 3-21	7719	Drilling
Puente	Horace Steele, Opr., Kenwood	1	17, 2-10	4054	Reaming
	J. C. Drilling Co., Kelso	1	12, 2-10	3326	Repairing
	V. & F. Oil Co., Grazide	1	27, 2-10		Location
Rice Canyon	General Pet. Corp., Mendota	1	22, 3-16	6520	Drilling
Sylmar	Richfield Oil Corp., T.I.T.	1	19, 3-15		Location
Temescal	The Texas Co., Dominguez	57-1	1, 4-18	7201	Drilling
Whittier	H. & C. Oil Co., Joyce	1	22, 2-11	5825	Idle
	Orange County				
Greenville	P. M. Girard, Mark Fisher	1	27, 5-10	5655	Redrilling
Newport Beach	Signal Oil & Gas Co., Banning	2	20, 6-10	2651	Testing
	San Bernardino County				
Chino	Chino Hills Oil Co., Kraemer	1	33, 2-28		Location
	Wm. Y. Lee, Corehole	1	21, 2-8	620	Coring

Standard Completing Gas Well at El Segundo

Standard Oil Co. Gough No. 13, shallow gas test on the north flank of the field, is being cleaned out preparatory to running a 4-inch perforated liner. 5½ inch casing was cemented at 2799 ft. and a formation test made of the zone from 2799 ft. to 2990 ft. and while the results of this test are not known it is understood that well showed a good blow of dry gas and no water. Rig has been built for Gough No. 14 about 150 ft. to the west and locations staked for Gough No. 15 and 16 a like distance south of each rig.

Huntington Beach Tideland Pool

Huntington State Co. State No. 3 operators third well in the offshore pool bottomed in poor oil sand and plugged to 2865 ft. where a combination string of 8⅝ inch casing was landed at 2865 ft. and cemented through perforations at 2731 ft. Completed from the upper Jones sand only, the well initialed 145 barrels per day of 17 gravity ol cutting 0.4 per cent flowing through a ½ inch bean with 20 pounds tubing pressure and 760 pounds casing pressure. The company is moving equipment onto the Pacific Electric right-of-way where it will drill State No. 4 southwest of 20th Street and Ocean Avenue. Locations are being prepared for six additional wells west of this location. Southwest Exploration Co. completed State J-7 from the Jones sand for an initial production of 320 barrels per day flowing through an 18/64 inch bean from 3976 ft. State J-8 was spudded October 9th and is now being drilled ahead below 1300 ft. Operator has locations staked for four additional Jones sand wells.

Surf Area To Get Test

Standard Oil Co. has rig built for Surf No. 5 some 1520 ft. south and 900 ft. east from the northwest corner of section 13-6s-11w. This is on the location where the Tronlyn Oil Co. built a wooden derrick about two years ago.

Texaco Deep Test Drilling

The Texas Co. Fields No. D-1 is drilling ahead in sand and shale below 5000 ft. in its Long Beach field deep test. Located northwest from the intersection of Spring and California Streets hole is slated to go to approximately 13,000 ft.

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Coastal District

Activity at Oxnard

On the Oxnard Plain east of town three projects are currently underway. Edward F. Delaney Todd No. 1 spudded October 12 and is now drilling ahead below 200 ft., Exeter Oil Co., has a rig up for its Lenox No. 2 and Hub City Oil Co. Chase No. 1 has 16 inch casing standing cemented at 150 ft. All three tests are located in section 6-1n-21w.

Deep Test Completed

On the east nose of the Temescal field Pacific Western Oil Co. has completed Temescal No. 14. Located in section 4-4n-18w, hole was drilled to a depth of 10,313 ft. No showings were found below the known producing zones in the field. Hole was plugged to 3350 ft. and completed on pump for an initial production of 100 barrels in 16 hrs. of 16 gravity oil cutting 67%. Zone open to production is from 2560 ft. to 3350 ft.

Standard Tests Holser Cyn. Cat

Standard Oil Co. Crestmont No. 1 drilled to a total depth of 7375 ft. and, since no showings were found in the lower zones, was plugged back to 6200 ft. A combination string of 7 inch casing was landed at 6198 ft. and cemented through perforations at 6018 ft. Water shut off test at 6015 ft. was wet and casing is now standing recemented at that point. Try is located in section 14-4n-18w, approximately ½ mile east of the Holser Canyon field.

Cat Canyon Well Nears Sand

Pacific Western Oil Corp. Los Alamos No. 24 is drilling ahead in shale at 4400 ft. Operator intends to start coring for the top of the sand at about 5000 ft. Union Oil Co. is placing Bell No. 18 on production and expects a good well. Total depth is 5790 ft. with a combination string of 7 inch casing including 636 ft. perforated, landed at 5788 ft. and cemented through perforations at 5142 ft. Both of these wells are located in section 36-9n-33w.

Capitan Area Gets New Test

Approximately three miles east of the old El Capitan field, in section 2-4n-30w, C. M. Morse has staked location for Vaqueros zone test well. Well will be known as Rhode Island No. 1 and is located 500 ft. south and 450 ft. west from the intersection of the easterly boundry line of the Rhode Island Estate and the centerline of State Highway No. 101.

Los Alamos Cat Test Wet

Whittier Associates well Barham No. 1 located in section 11-7n-32w, is pumping 1350 bbls per day fresh water with a scum of 14 gravity oil from the plugged depth of 3362 ft. Hole was bottomed at 4847 ft. in fractured brown shale and plugged back after an electric log showed no porous sands below 3400 ft.

Huron Test Running Casing

Midway between the Riverdale and Raisin City fields, in section 35-16s-18e, General Petroleum Corp. is running casing in Burrel No. 68-35. Hole has been bottomed at 6660 ft. in lower Temblor gray sand and shale. Formation tests made near bottom have shown good blows of gas and recovered small amounts of high gravity oil. Operator intends to cement 5 inch casing on bottom and gun perforate from about 6280 ft. to 6300 ft. for the first test.

Simi Area Gets Test

South of the old Simi field, in section 16-2n-18w, Mayo Oil Co., has rig built for Montgomery No. 1. An attempt will be made to place well on production from zones expected above 1000 ft.

COASTAL COUNTIES WILDCATS

Area	Well	No.	Section	Depth	Status
Capitan	C. M. Morse, Rhode Island	1	2, 4-30		Location
Casmalia	O. C. Field Gas. Corp., Casmite	3	13, 9-35		Rig
Lompoc	Fickert Oil Co., Ltd., Fickert	1	8, 7-33	800	Idle
Los Olivos	Hub Oil Co., La Laguna	1	7, 7-30	3580	Idle
Purisima Hills	Whittier Assoc., Barham	1	11, 7-32	4847	Pumping
	Ventura County				
Bardsdale	San Marino Oil Co., Elkins	1	7, 3-19		Moving in equip.
Camarillo	Camarillo Oil Co., Camarillo	2	32, 2-20	1672	Drilling
Conejo	Sulphur Springs Oil Co., Janss	1	23, 2-19	4834	Suspended
Del Valle	Herley-Kelley, Black	1	13, 4-18		Grade
Eureka Canyon	El Rika Oil Co., Well	6	33, 4-18	109	Drilling
Fillmore	Standard O. Co., Fillmore Comm.	2-1	24, 4-20	9244	Drilling
Happy Camp	Cal Camp Oil Corp., Harrington	1	21, 3-19		Location
Ojai	Richfield Oil Corp., Ojai	48	12, 4-22	1152	Prep. to pump
Oxnard	Edward F. Delaney Todd	1	6, 1-21	152	Drilling
	Exeter Oil Co., Ltd., Lenox	2	6, 1-21		Rig
	Hub City Pet. Co., Chase	1	6, 1-21	150	Drilling
Piru	Pac. West. O. Corp., Temescal	14	4, 4-18	10313	Plug & comp.
	Standard Oil Co., Crestmont	1	14, 4-18	7375	Testing
Sespe	Volunteer Pet. Co., Tar Creek	3	28, 5-19	1202	Drilling
Simi	Mayo Oil Co., Montgomery	1	16, 2-18		Rig
South Mt.	F. E. Fairfield, S. M.	1	19, 3-20	4349	Idle
Torrey Canyon	Union Oil Co., Torrey	60	5, 3-18	6146	Testing
Wiley Canyon	Wilshire Oil Co., Ventura Realty	1	1, 3-19		Rig

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Butte	Richfield Oil Corp., Chico	1	17, 21n-1e	6243	Coring
Contra Costa	Cal-Bay Corp., Faria	1	21, 2n-1w	4398	Testing
	Standard Oil Co., Oursan Comm.	1	28, 2n-3w		Rigging up
Glenn	Richfield Oil Corp., Afton Comm.	1	2, 18n-1w		Cellar
	Superior Oil Co., Glenn Com. Three	72-20	31, 21n-1w	7509	Drilling
Monterey	Royalty Service Corp., Federal	1	21, 24s-10e	5976	Drilling
Sacramento	Amerada Pet. Corp., Goodfellow	1	25, 5n-5e	3772	Testing
	Amerada Pet. Corp., Gwerder	1	36, 5n-5e		Rigging up
San Joaquin	Richfield Oil Corp., East Stockton	1	5, 1n-8e		Rigging up
	Standard Oil Co., Fairoaks Comm.	1	19, 1n-7e		Rigging up
	Standard Oil Co., No. Roberts Isl.	1	36, 1n-5e	4610	Testing
San Luis Obispo	Los Nietos Co., Scott	1	5, 31s-13e	640	Drilling
Solano	Standard Oil Co., Honker Comm.	1A	25, 3n-1w	7939	Drilling
	Standard Oil Co., A. O. Stewart	1	25, 3n-1w	6680	Testing
	Standard Oil Co., Suisun Comm.	3	5, 3n-1w		Location
Sutter	Shell Oil Co., Buttes Comm.	C-1	12, 16n-1e		Rigging up
Yolo	Empire O. & G. Corp., Porterfield	1	18, 10n-2w		Location

Santa Maria Valley Shows Activity

Bel-Air Oil Co. Donovan No. 1, section 13-10n-35w, is being placed on production from a total depth of 4821 ft. Bel-Air Oil Co. Twichell-Weging Comm. No. 2, in section 26-10n-34w, is being rigged up to redrill. The well's total depth is 5377 ft. Hancock and Bush Oil Cos.' Rosenblum No. 5 in section 25-10n-34w is rigging up. Union Oil Co. Russell No. 5, section 21-10n-34w, is rigging up, rig has been built for Bradley Lands No. 1-7 and B. Vincent No. 10 is drilling ahead in brown shale below 4600 ft. Both are located in section 25-10n-34w.

Deep Test Completed

C. C. M. O. Co. Hobson No. C-9, deep test well in section 17-3s-24w, was completed for an initial production of 235 barrels per day of 26 gravity oil cutting 30 per cent salt water, flowing through a 48/64 inch bean with 160 pounds tubing pressure and 770 pounds casing pressure. Total depth is 9375 ft. with 1693 ft. of perforations open below 7402 ft.

Conejo Test Again Idle

Sulphur Springs Oil Co. Janss No. 1 is again standing idle after deepening to 4834 ft. in hard bluish gray shale. Located in section 23-2n-10w hole was originally drilled in 1939 to 3000 ft. and stood idle at that depth for nearly a year. During 1940 operations were resumed and well deepened to 4526 ft. Hole stood idle at that depth until September of this year. No showings have been reported in the hole at any time.

Fillmore Cat Getting Deep

Northwest of the town of Fillmore Standard Oil Co. is drilling ahead in its Fillmore Comm. No. 2-1 at 9250 ft. Operator is withholding all information as to the wells position in the section and showings encountered. Hole is being drilled in section 24-4s-20w.

Standard Oil Busy In Northern Counties

In the northern part of the state Standard Oil Co. has seven projects currently under way. Oursan Comm. No. 1 in the Pinole area of Contra Costa county, section 18-2n-3w, is rigging up, while in San Joaquin county, North Roberts Island No. 1, section 36-1n-5e, is testing for gas at 4610 ft.

The Company's Fair Oaks Comm. No. 1 is standing rigged up in section 19-1n-7e. In Solano county's Suisun area, Honker Comm. No. 1A is drilling ahead at 7939 ft., while in the same section 25-3n-1w, A. O. Stewart No. 1 is testing formation at 6680 ft. In the Rio Vista gas field Standard Oulton Land Co. No. 1 has been bottomed in green sand at 4494 ft.

Contra Costa Cat Running Tests

In the Pittsburg area of Contra Costa County the Cal-Bay Corp. Faria No. 1 has cemented casing at 4343 ft., preparatory to gun perforating and testing Cretaceous gas sands found below 4200 ft. Hole is bottomed at 4398 ft. in gray siltstone. Open hole tests made prior to running casing recovered gas cut mud.

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San Joaquin Valley

Helm Outpost Completed

General Petroleum Corp. Noble No. F-4-5, section 5-17s-18e easterly outpost well in the Helm field, was completed October 16. Hole was bottomed at 8093 ft. and is producing from gun perforations in 5¾ inch casing between 7985 ft. and 8025 ft. Prior to placing well on production a number of tests were made to make sure the water sands above and below the oil sand were completely eliminated. At this writing no gauge is available as well is shut in while installing traps and lines. However, a very good producer is anticipated as well started flowing while changing fluid from water to oil. Tubing pressure built up over 2000 pounds as soon as the valve was closed. Southeast from this well, in section 9-17s-18e, operator has let the contract to Bell & Loffland for Noble No. F-2-9.

Shell Extends Raisin City Field

Shell Oil Co., Inc., has extended the known producing limits of Raisin City field approximately 2 miles to the Northwest. Located in section 10-15s-17e San Joaquin No. 1-1 was completed on October 4 for an initial production of 2400 m.c.f. per day of dry gas with a spray of water. Total depth is 6376 ft. with hole plugged to 5020 ft.

Southeast from this well, in section 14-15s-17e, Seaboard Oil Co. S. T. U. No. 31-14 is preparing to test about 10 ft. of Domengine oil sand below 6375 ft. This sand correlates approximately 40 ft. lower than it was found in the company's discovery well and is not expected to be commercially productive. Universal Consolidated Oil Co. has spudded its Taylor No. 1 in this section and is building foundations for well No. 3-13 in section 13-15s-17e.

Round Mt. Test Plugged Back

General Petroleum Corp. Railroad No. 2, offset well to the Bandini Pet. Co's. discovery well in section 23-28s-28e, has been plugged back after drilling to 2785 ft. Only a few spots of oil were found in hard tight Vedder sand at 2505 ft. The lower Vedder zone was found to contain only hard tight barren sand. Operators future plans are not known at this time. South east from this well, in section 25-28s-28e, E. A. Bender and Burton Benwell have spudded their S.P.L. No. 1 and are currently drilling ahead at 2550 ft. While three miles to the north Iseminger Brothers have staked location well No. 2 in section 2-28s-28e.

Edison Well Cores Oil Sand

Southwest from the town of Edison, in section 5-30s-29e, J. Paul Getty is running casing in his Portals No. 3. Total depth is 4021 ft. with top of the oil sand placed at 3980 ft. In this same section Tracy Harkness is rigged up and all ready to go on his Seale No. 2.

Richfield Resumes At North Belridge

Richfield Oil Corp. has resumed operations in its Belridge No. 4. Well has been standing suspended at 8509 ft. for about two months. Hole has now been cleaned out to bottom and 8⅝ inch casing is standing cemented at 8315 ft. Operator intends to make a little more hole before placing well on production. In the same area, section 21-27s-20e, Tide Water Assoc. Oil Co. is grading location for Well No. 34-21.

SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
Fresno County					
Coalinga	The Texas Co., S. P.	58-21	21, 19-16		Bldg. rig
Huron	Gen. Pet. Corp., Burrel	68-35	35, 16-18	6660	Rng. casing
Jacalitos	Standard Oil Co., Well	67-17E	17, 21-15		Rig
	Standard Oil Co., Wells Fargo	1	30, 21-15		Location
Lanare	Amerada Pet. Corp., Cal. Lds.	65-15	15, 17-18		Cellar
Nicholson	Shell Oil Co., Inc., S. P.	73-35	35, 15-15		Rig
Polvadero	Standard Oil Co., Bourdieu	1A	1, 21-16	8085	Drilling
Raisin City	Pauley, E. W. & H. R., Well	21-29	29, 15-18		Prep. to spud
Kern County					
Beldrige—South	Atlas Prod. Co., Anderson	1	8, 29-21	920	Drilling
	C.C.M.O. Co., Temblor	36-1	36, 28-20		Location
Belgian Anticline	The Texas Co., Visalia	5	12, 31s-22e	1714	Completing
Comanche Point	T. W. Burnham, Chiquita	2	34, 12-19	2250	Drilling
Cymric	Standard Oil Co., McPhee	37	36, 29-21	5949	Drilling
Edison	Tracy Harkness Seale	2	5, 30-29		Rigging up
	J. Paul Getty, Portals	3	5, 30-29	4021	Rng. casing
Elk Hills	Pacific Western and G. F. Getty, Transport	64	26, 30-24	6989	Drilling
Fruitvale	T.W.A. Oil Co., KCL	54-6	6, 29-27	3953	Drilling
Grapevine	Kern Line Oil Co., Well	1	19, 11-19	9097	Coring
	Richfield Oil Corp., Tejon	5	35, 11n-19w	808	Drilling
Jasmine	Barnhart-Morrow Cons., BM-Quinn	1	15, 25-27	2520	Drilling
	Western Gulf Oil Co., Well	1	4, 25-27		Location
Lost Hills	Union Oil Co., Ellis	8-11	11, 27-21	3997	Abandoned
McClung	Continental Oil Co., KCL	H-1	18, 30-26		Rigging up
	Continental Oil Co., Easton	1	33, 29-26		Foundation
	Superior Oil Co., KCL	12	3, 30-26	13131	Suspended
Midway	C.C.M.O. Co., Well	G-1	20, 31-22	3538	Abandoned
Mt. Poso	British-American Recovery	2	34, 26-28		Location
	Da-Me Oil Co., Well	3	27, 26-28	1398	Testing
	J. T. Wilcox, Zanetti	1	17, 28-28	852	Drilling
Mt. View	Di Giorgio Fruit Corp., Well	5	10, 21-29		Rigging up
Poso Creek	Butler Bros. Oil Co., Butler	1	14, 27-27		Rig
	Pac. West'n O. Corp., Enas Fee	38	21, 27-27	2046	Completing
Rio Bravo	Union Oil Co., Kernco	81-8	8, 29-25	7460	Drilling
Round Mt.	Bender & Benwell, S.P.L.	1	25, 28-28	2550	Drilling
	Gen. Pet. Corp., Railroad	2	23, 28-28	2785	Drilling
Shafter	T. W. A. O. Co., Shafter, Com.	86-7	7, 28-25		Material
Shale Point	Shell Oil Co., Inc., Utting	3	7, 27-19		Location
Strand—East	T.W.A. Oil Co., KCL	54-8	8, 30-26	8207	Completed
Tehachapi	E. G. Cummings, Poor Boy	1	31, 32-32	1240	Drilling
Temblor	B. F. Delanty, Well	69-A-1	36, 29-20	212	Drilling
Williams	C.C.M.O. Co., Antelope Fee	12-2	12, 28-19	205	Drilling
Kings County					
Hanford	Seaboard Oil Corp., Phillips	66-2	2, 19-22	4410	Drilling
Pyramid Hills	Pac. O. & G. Dev. Corp., CC&MO	1	17, 24-18	962	Idle
	Pac. O. & G. Dev. Corp., CC&MO	2	20, 24-18	935	Idle
Madera County					
Herminghaus	The Texas Co., Gill	71-21	21, 13-16	4801	Completed
	Shell Oil Co., Inc., Gill	38-18	18, 13-16		Location
Firebaugh	The Texas Co., Moffat	55-7	7, 12-15		Bldg. rig
Tulare County					
Porterville	T.W.A. Oil Co., Corehole	87-11	11, 22-26	2735	Abandoned
Terra Bella	Richfield Oil Corp., Terra Bella	1	29, 22-27		Grade

Greeley Wells Getting Deep

Two of the four wells currently being drilled in this field are approaching the top of the objective sand. General Petroleum Corp. Mitchell No. 3, section 1-29s-25e, is drilling ahead in shale below 10,700 ft., while in section 21-29s-26e Standard Oil Co. is coring for the top of the sand in its Wegis Comm. No. 1 at 11,520 ft. Standard's two other projects in the field, KCL Nos. 11-39 and 11-40 located on section 18-29s-26e, are drilling ahead at 8603 ft. and 4500 ft. respectively. Superior Oil Co. is rigging up Lewis No. 4 on section 12-29s-25e.

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Taft Well Gets Flow

East of Taft, on section 19-32s-24e, Standard Oil Co. completed its well No. 107-19D on October 8, 1943. Initial production was 115 B/D 20.0 gravity 0.8% cut flowing through a ½-inch bean with 15 pounds flow pressure, while gas production was 40 m.c.f. Total depth is 2700 ft. A combination string of 5½ inch casing was landed at 2696 ft. and cemented through perforations at 2595 ft.

Wasco Well To Redrill

Continental Oil Co. is rigging up its Meyer No. 1 to recondition and or redrill. Located in section 7-27s-24e, the well was originally completed from a total depth of 13,139 ft.

South Belridge Field Continues Active

The drilling boom which has been going on in this field continues at an even pace. During the current week there were fourteen new locations, eight new wells spudded and seven wells placed on production. The Belridge Oil Co. continues to be the most active company, with Berry Oil Co., C. C. M. O. Co., and General Petroleum Corp. running one string each. Shell Oil Co., Inc., is developing its property in the field with two strings running continuously.

The Texas Co. Testing

The Texas Co. Visalia No. 5 is washing perforations preparatory to making a production test. Located on the Belgian Anticline in section 12-31s-22e hole was drilled and cored to a total depth of 1714 ft. A formation test was made of the sandy shale found at bottom. Only drilling mud with a trace of oil was recovered and hole was plugged to 1320 ft. 6⅝ inch casing was cemented at 1180 ft. and 5 inch perforated liner landed at 1318 ft. A small pumping well is expected. Rig is being moved in to drill well No. 6 near the southwest corner of the section.

C. L. Zastrow Pumping

C. L. Zastrow Well No. 38-16, extension test on section 16-30s-29e, was placed on the pump October 10 and is producing water with a trace of oil to the sump. Total depth is 4872 ft. A 5½ inch blank liner was cemented on bottom and gun perforated in two stages between the depths of 4762 ft. and 4832 ft.

Cymric Outpost Getting Deep

Approximately one mile southeast of the Cymric field, Standard Oil Co. is drilling ahead in its McPhee No. 37. Located in section 36-29s-21e hole is being drilled ahead in hard brown shale at 5950 ft. No showings have been encountered to date.

Kings County Well in Temblor

In section 2-19s-22e, 4 miles southeast of Hanford, the well of the Seaboard Oil Co. and the Continental Oil Co. has been drilled and cored to a depth of 4410 ft. Bug dope from cores near bottom show well to be in lower Temblor. Operator is now running an Electric log to check these correlations.

Madera County To Be Active

Madera County is slated to get three new wells in the near future. In the Herminghaus area Shell Oil Co. has announced location for Gill No. 38-18 in section 18-13s-16e. Location falls about two miles Northwest of the recently completed Gill No. 71-21 of The Texas Co. In the Firebaugh area The Texas Co. is preparing to spud Moffatt No. 55-7 on section 7-12s-15e. Location has been staked for Gill No. 61-20 approximately one mile west of Gill No. 71-21 which is now standing shut in after establishing a potential in excess of 10,000 m.c.f. gas per day.

J. P. Butler

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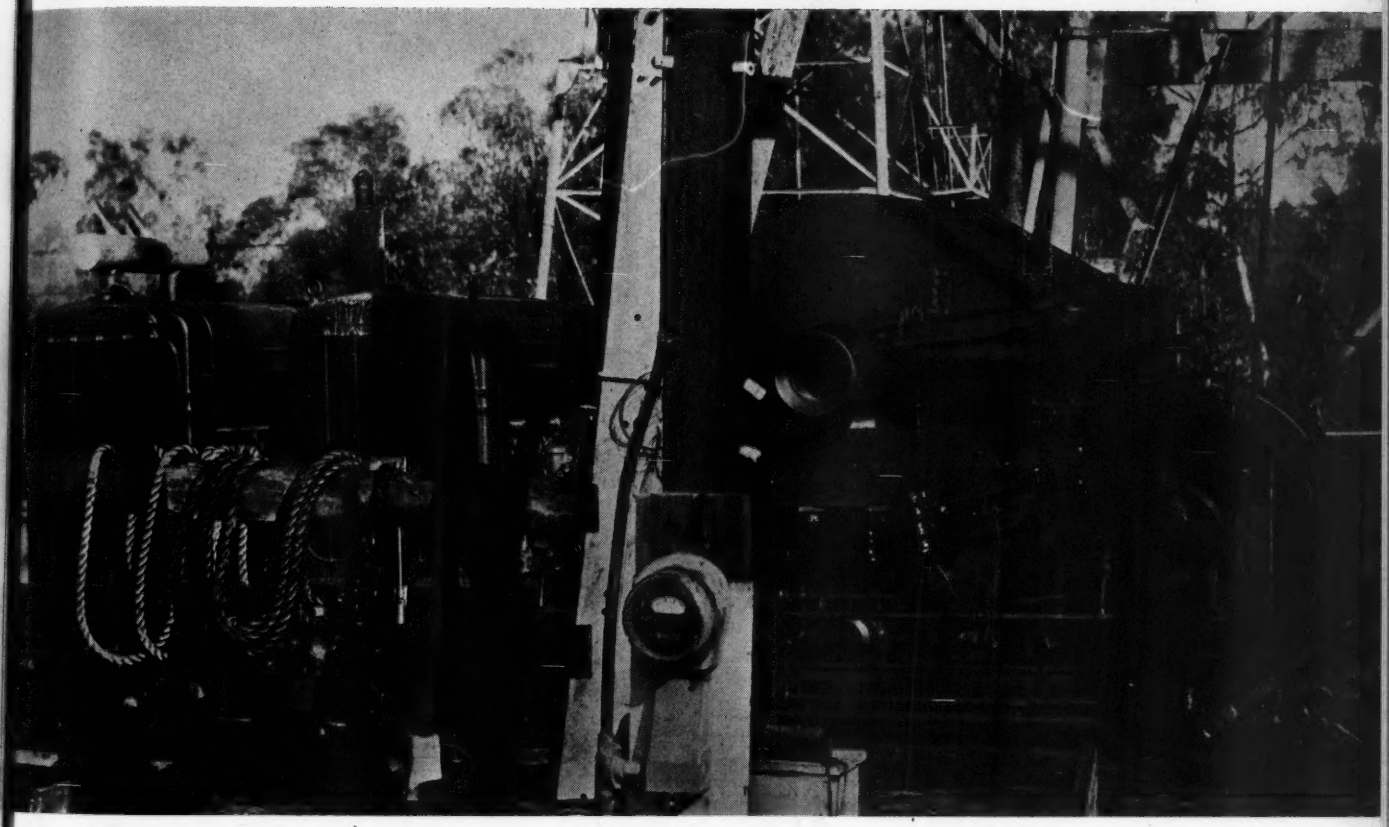

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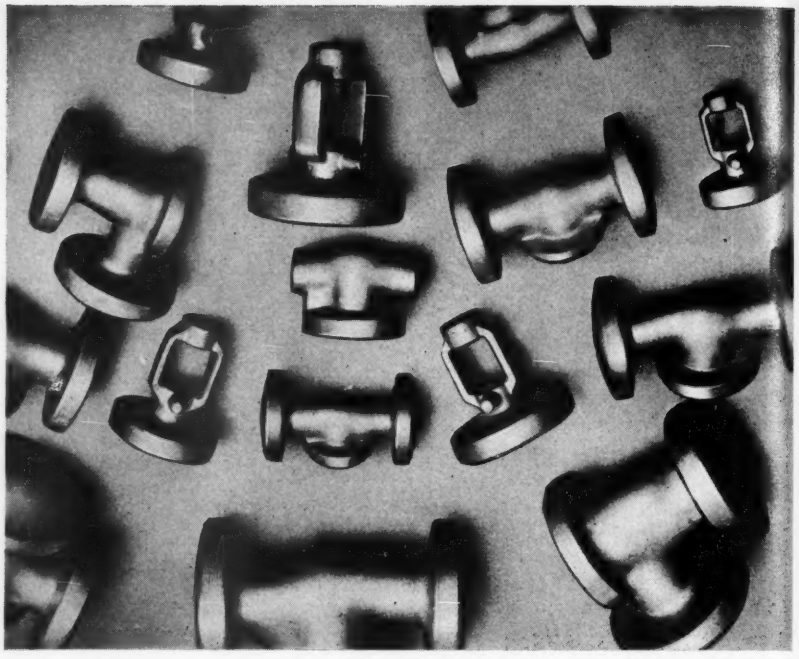
Forged High Pressure Valve Bodies Now Being Made on the West Coast

General Metals Corporation has announced the production on the West Coast of forged valve bodies. While not new to the East, General Metals has recently installed equipment which will now make available high-quality forged valve bodies to the West. These are produced in sizes from ½ to 2 inches, and will withstand pressures up to 600 pounds per square inch.

This development is in line with the Company's plan to provide an increasingly broad and comprehensive source for high-quality castings and forgings to industries of the West.

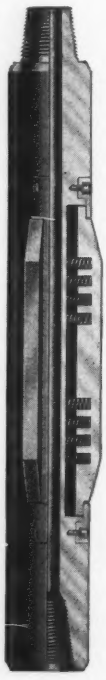
Diversification is not limited to products alone. Plant facilities are equally well dispersed, providing opportunity for service. Three plants in Oakland produce steel, gray iron and malleable castings; three plants in Los Angeles produce malleable iron castings and press and drop forgings. The Houston plant manufactures drop forgings.



These forged valve bodies by General Metals are the first produced on the West Coast. They are available in sizes from ½ to 2 inches, and in pressures up to 600 pounds per square inch.

Baker Introduces New Casing Scraper

There is always a hazard to downhole operations performed through casing when the inside wall of the pipe is not completely free of incrustations or projections of any kind. Tools may be hung up or tripped prematurely, packing elements may be damaged, slips may clog with cement and fail to hold, or subsequest strings of casing or liner may fail to go down. Even when a maximum gauge bit is used for drilling out cement left in the casing, some of the cement will remain on the wall of the pipe. Burrs are left when perforating and may damage cement retainers, packers or other devices depending on a seal-off for their successful performance. Even soft material, such as paraffin, adhering to the wall of the casing may hamper operations. This is all particularly true when equipment with close clearance is run through the string or when the hole is even slightly off vertical.



To overcome this danger Baker Oil Tools, Inc., P. O. Box 127, Vernon Sta., Los Angeles, 11, California, developed a Rotary Casing Scraper for the effective removal of all kinds of incrustations and projections on the inside wall of the casing. This tool is run on the drilling string (usually above the drilling bit) and scrapes the wall of the casing as it is rotated. The scraper is equipped with three blades that form an expansible reamer because they are at all times pressed outwardly against the wall of the pipe by a number of strong, coil springs. This design provides a self-adjusting and equalizing operation that affords uniform contact with the wall and insures a smooth scraping and cleaning action. The cutting edges of the blades are faced with hard metal. The blades are easily changed and a Blade Depressor adaptable to all sizes of casing scrapers can be furnished to facilitate the operation. There are recesses for eight springs under each blade but only the number of springs necessary to meet the scraping conditions need be used.

In operation, the rotary casing scraper is usually inserted between the drilling bit and the drill collar and is then lowered in the well until the section of casing to be scraped is reached, the blades riding against the wall of the pipe. When scraping, the tool is rotated as in normal drilling and the scraper automatically scrapes the wall of the casing of any incrustations and cuts and smooths out any projections. The blades will not only adjust themselves automatically to all weights of a given size of casing but will also pass through the joints of internal upset casing.

The casing scraper is frequently run above the bit when drilling out the cement tailings left in the casing during cementing operations, thus removing all the cement with one operation. It can, of course, be run at any time and is probably most extensively used for cleaning the wall of the casing after other operations have been completed at the depth to which the well has been drilled at that time.

Oil Workers are War Workers.

THIS LAUGH

OFF!!

This little incident occurred during a session of the draft board in a small town in Alabama.

A sad-faced colored man shuffled up to the desk to plead for deferment.

"I jes' natchelly can't go over yonder to fight them Nazis," he protested.

"Why can't you go?" countered the board chairman. "You look strong enough."

"Oh, I'se strong enough. But ef I goes away to fight they won't be nobody to look after my wife."

Another colored man detached himself from the group awaiting examination, advanced eagerly and inquired, "Whut sort of a lookin' lady is yo' wife?"

If we could fry the fat out of the heads of some of the bureaucrats we would have plenty of material for ammunition.

Sentry: "Who goes there?"

Voice: "The devil."

Sentry: "Pass on devil. You know where you can go."

"Sorry, madam, but licenses are issued only when your form is filled out properly."

"Why, I like your nerve, we can get married, no matter what I look like."

Rastus and his wife, driving to town in their decrepit fliver, had parked it casually in the first available space. While they were away a traffic officer attached a numbered tag to the vehicle for parking in a prohibited zone. On their return, Rastus noticed the tag and was for throwing it into the street, but Dinah restrained him.

Sabe de ticket, honey," she said. "Dat number might win sumthin'."

Four young men visiting the Orient before the war, who considered themselves exceedingly clever, had a Chinese servant upon whom they played all sorts of pranks.

One night they nailed his shoes to the floor. The next morning, without a word or sign of retaliation, he brought in their coffee.

Next day they put sand in his bed. The next morning he served their coffee smiling blandly, with no trace of resentment in his attitude.

So they decided to play no more tricks on such a good fellow, and told him so.

"No more nailee shoes to floor?"

"No."

"No more putee sand in bed?"

"No."

"Velly well, no more putee mud in coffee."

A clerk at Kelly Field, Texas, was helping an old Negro to fill out an application blank for a Civil Service janitor job. The clerk would read off the questions and then write down the answers.

"Do you belong," asked the clerk, "to the Nazi Bund, or any other political party that plans to overthrow the government?"

"Yas sah," answered Uncle Mose.

"Which one?" asked the clerk, taken by surprise at the applicant's candor.

"I belongs to the Republican party," was the earnest reply.

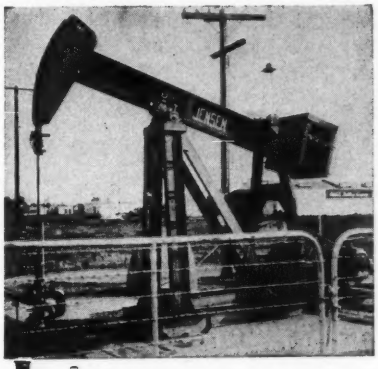
A sailor, after placing some flowers on a grave in a cemetery, noticed an old Chinaman placing a bowl of rice on a nearby grave, and asked: "What time do you expect your friend to come up and eat the rice?"

The old Chinaman replied with a smile: "Same time your friends come up to smell flowers?"

Wish we had a fifth for bridge."

"You don't need a fifth for bridge, you dope."

"Well, make it a pint, then."



Where Opinion Counts

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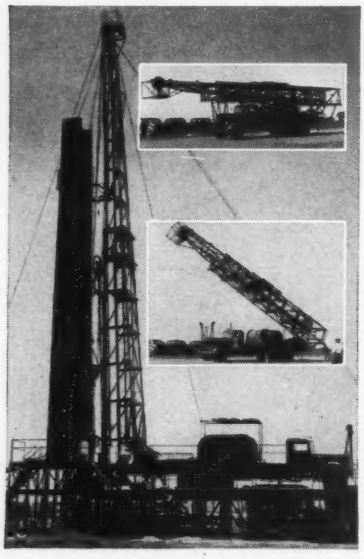
Franks Introduces New Telescoper

Containing all of the essentials for either drilling or servicing wells and mounted on a single truck, the Model 7000 Double Duty "Self-Propelled" Telescoper made by the Franks Manufacturing Corporation, Tulsa, Oklahoma brings added savings to the petroleum industry.



Franks' Model 7000 Double Duty "Self-Propelled" Telescoper in service in California with 7,900 feet of 2½-inch tubing racked. A sub-structure is used here to clear the elevated blow-out preventer. Insets show unit in "over-the-road" position and with derrick being raised.

A Model 7000 now in service at Riverdale, California contains a 96-foot derrick, drawworks, power plant, rotary table, crown block, stacking board as an integral part of the unit. Pumps for drilling operations are mounted on skids for handling by an auxiliary truck.

The Franks' proven derrick telescopes to 58 feet for over the road travel with blocks and lines strung, reducing move-in and rig-up time to usually less than 45 minutes. Actual raising, extending and locking the derrick requires less than 10 minutes. A patented power screw raising and lowering mechanism and a self locking device feature the Franks unit. The derrick is equipped for handling rods and racking drill pipe or tubing.

Designed for all-round use the unit will service wells up to 10,000 feet, is adaptable for deepening and clean out work, will handle shallow or medium depth standard drilling or deep "slim-hole" drilling. Being 100% portable it is especially desirable for exploratory drilling.

Drilling Contractors Seek Return of Skilled Workers

A plan which will permit the return of large numbers of skilled workers to the drilling industry is being worked out by the American Association of Oil Well Drilling Contractors in conjunction with the War Manpower Commission. N. W. Wheless, President of the Association, said, "The WMC has indicated that it will do everything possible to assist in the return of such men." PAW has called for drilling of 25,000 wells in 1944. This compares with approximately 16,000 wells in 1943, and 18,300 wells actually drilled in 1942, 32,000 in 1941, and 30,000 in 1940, he said. Drilling contractors normally drill 75-80 per cent of all wells in U. S. and the oil industry will likely call upon contractors to increase this percentage in 1944," he concluded.

STATEMENT OF OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, and MARCH 3, 1933.

Of California Oil World & Petroleum Industry, published semi-monthly at Los Angeles, California, for October 1, 1943.

State of California, County of Los Angeles, ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Walter C. Monroe, who, having been duly sworn according to law, deposes and says that he is the President and Business Manager of the California Oil World & Petroleum Industry, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, Walter C. Monroe, 765 S. Plymouth Blvd., Los Angeles, Calif. Editor, Walter C. Monroe, 765 So. Plymouth Blvd., Los Angeles, Calif. Managing Editor, None. Business Manager, Walter C. Monroe, 765 So. Plymouth Blvd., Los Angeles, Calif.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member must be given): Petroleum Publishers, Inc., 939 So. Broadway; Ward B. Blodget, 714 W. Olympic Blvd., Los Angeles, Calif.; A. A. MacDonald, 133 N. Las Palmas, Los Angeles, Calif.; M. K. Miller, Jr., 939 So. Broadway, Los Angeles, Calif.; Walter C. Monroe, 765 So. Plymouth, Los Angeles, Calif.; Neal J. Norris, 714 W. Olympic, Los Angeles, Calif.; Estate Arnold K. Fitger, 530 W. 6th St., Los Angeles, Calif.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above is: (This information is required from daily publications only.)

WALTER C. MONROE
(Signature of business manager)

Sworn to and subscribed before me this 29th day of September, 1943.

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(My commission expires May 21, 1945.)

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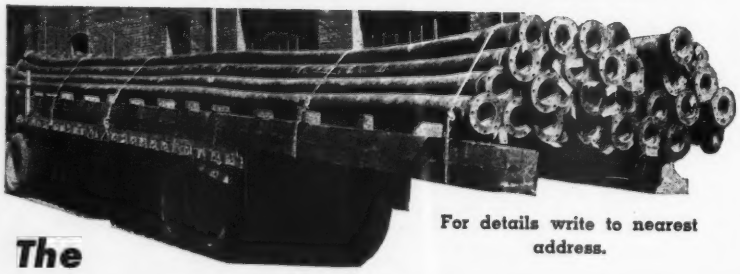

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Philip H. Patchin Retires as V. P. Standard of Calif.

The retirement of Philip H. Patchin, Vice President of Standard Oil Company of California, after twenty-four years of service, was announced by President H. D. Collier. Since March 1942, until his recent return to California, Mr. Patchin has been stationed in Washington, D. C. He recently returned to his home in Burlingame, California, where he is convalescing from an illness.

Prior to joining Standard of California in 1919 Mr. Patchin engaged in newpaper work, and on three different occasions was an official of the State Department in Washington. His newspaper work, for a considerable number of years, was in Washington. He also served as a correspondent in Brazil, Cuba, Mexico, China and England, where he spent the first two years of World War I, and a brief period at the front in France.

Mr. Patchin first entered the Department of State in 1909. After two years of service he returned to newspaper work. He re-entered the State Department as Chief of the Division of Foreign Intelligence when this country went to war in 1917. At the end of that war, he went to Paris with President Wilson and Secretary of State Lansing, as Executive Secretary of the American Peace Commission with the rank of Counsellor of Embassy. He joined the Standard Oil Company of California in 1919 as Assistant to President K. R. Kingsbury. In 1921 he returned to Government service, on Company leave of absence, as a secretary of the Disarmament Conference, where he served as an assistant to Secretary of State Hughes.

Mr. Patchin was elected a Director of Standard of California in 1935, and a Vice President in 1942. He took a leading part in the Company's interest in the development of aviation. Under his direction the Company some years ago painted aviators' guide signs on the roofs of its seven hundred warehouses in cities and towns of the Pacific Coast. He also developed the plan for the installation of high-power aviation beacons at seven prominent points including the beacon on Mt. Diablo near San Francisco Bay. He also initiated the Standard Symphony Hour and the Standard School Broadcast, the Company's two principal radio programs. From 1937 through 1939, he was a member of the Board of Management of the Golden Gate International Exposition.

Warner Clark Appoints Special Committee

Appointment of a special committee of operating oil men has been made by Warner Clark, Chairman of the Conservation Committee of California Oil Producers. The purpose of the committee is to study the recently proposed "Regulations for Oil and Gas Unit Plan," which is being sponsored by the Geological Survey, Department of the Interior. The committee's work will be to analyze these proposed regulations and consider them in light of operations in California. The committee will formulate and present modifications of the plan in order to solve local oil field problems. In several California oil fields of the San Joaquin Valley District, producing companies are considering unitization plans of operation. Therefore, this subject is of keen and immediate interest. The committee will be composed of seven members to act in behalf of the Pacific Coast section of the petroleum industry. A national hearing will be held in Denver starting November 17. The members of this committee are:

Robert M. Allan, Jr., Chairman, The Superior Oil Company; L. A. Cranson, Honolulu Oil Corporation; Olen Lane, Continental Oil Company; Ross McCollum, National Oil Company; B. E. Parsons, General Petroleum Corporation; R. C. Patterson, Belridge Oil Company; C. P. Watson, Seaboard Oil Company of Delaware.

New Export Company Formed To Open Trade Channels for American Manufacturing

To assist American business in foreign trade developments, the new importing and exporting company of Herman Yaras has been recently formed in Los Angeles. This concern will occupy itself primarily with the development of distribution contacts in the Central and South American countries, as well as the Far East.

Headed by Herman Yaras, formerly president of the Marsman Trading Corporation in the Philippines, the concern has already developed excellent connections in Mexico and expects shortly to announce additional tie-ins in the South American market. Trade arrangements have been completed with the firm, Mexargo, in Mexico City, which is Mexico's largest trading company. This concern not only maintains wide distributing facilities in Mexico, but in many other Latin American countries as well.

Mr. Yaras, whose experience has included directing the foreign sales of some of America's largest companies, such as Westinghouse, Sears-Roebuck, Republic Steel, Pennzoil, Cleveland Tractor, Eli Lilly, Royal Typewriter and others, has recently returned from an extensive trip in Central America.

He says in part, "Mexico wants and needs American products as quickly as possible, especially those which will fit into the big industrial and agricultural program now under way. The time is now ripe for American manufacturers to consummate their plans for the distribution of their products in Central and South American markets. Those firms who are planning far-sightedly today will benefit in heavy post-war business."

The new company is set up to handle an importing and exporting business and with this thought in mind is now engaged in building a thoroughly trained and competent staff of men with actual foreign business experience. Mr. Yaras himself has lived in 26 countries and successfully developed foreign markets for hundreds of American products and supplies. Further expansion of the organization is anticipated in the near future.

Oil Workers are War Workers.

Western Gear Works, Lynwood Plant, Awarded A. M. P. G.

On Sunday, September 26, at 1:30 p.m., the Auxiliary Military Police Unit of Western Gear Works, Lynwood, Calif., was presented the coveted Auxiliary Military Police Guidon Award by command of Major-General Kenyon A. Joyce, Commanding General, Ninth Service Command, U. S. A.

This Lynwood Plant Guidon was the second such award to be won by Western Gear Works Auxiliary Military Police Units, and the fourth to be awarded in the Ninth Service Command—the first having been won on July 1, 1943, by the Auxiliary Military Police Force of Western Gear Works Plant in Seattle, Wash. The Seattle Guidon was the first ever awarded to an industrial plant Police Organization in the United States.

It took the untiring and sincere effort of thirteen men under the auspices of a cooperative executive body to win for Western Gear Works of Lynwood, Calif., this high honor.

The Auxiliary Military Police Guidon is an award of merit created by the Provost Marshall General's Office of the United States Army by authority of Circular No. 15, dated March 17, 1943. In purpose, it is intended to give recognition to the Plant Protection Forces of War Industries who have reached a standard of outstanding efficiency and excellence. Plant Protection Police are by War Department Order auxiliaries to the Military Police Corps of the Provost Marshall's Division of the United States Army.

The ceremony at the Western Gear Works Lynwood Plant took place on the plant grounds and was attended by well over two thousand persons, including Army-Navy and civilians. Attendant with the ceremony, the plant held "open house" for the first time since it has been in production. The fifteen hundred persons who went through the plant viewed the fine machinery with keen interest and were greatly impressed by the progress shown at this Western Gear Works plant.

Among those who spoke during the ceremonies were Berk Bannan, Vice-President and General Manager, Western Gear Works; Lt. Colonel Leonard R. Dykes, Director Internal Security Division of Southern Security District, U. S. A., and S. LeRoy Crawshaw, Manager of Plants, Western Gear Works. All the speakers lauded the achievements of this Auxiliary Police Force and inspired the other employees to greater effort in the plant's war program.

Photo, which was taken at Guidon presentation ceremony on the grounds of Western Gear Works, Lynwood, California, on Sunday, September 26, 1943, shows (left) 1st Lt. Robert E. L. Sisco, Civilian Military Police, Southern Security District, U.S.A., presenting the Guidon Flag to Chief of Police W. L. Walls, Director of Plant Protection, Western Gear Works, California Division. Seated in first row background, left to right, Berk Bannan, Vice-President and General Manager, Western Gear Works; Lt. Colonel Leonard R. Dykes, Director Internal Security Division of Southern Security District, U.S.A. and S. LeRoy Crawshaw, Manager of Plants, Western Gear Works. In center of second row is Philip L. Bannan, Jr., General Manager, Pacific Gear Works, Division Western Gear Works. The Guidon Award is considered the highest honor which may be bestowed on any Auxiliary Military Police Unit.

The Guidon was presented by 1st Lt. Robert E. L. Sisco, Civilian Military Police, Southern Security District, U. S. A., and was accepted by Chief W. L. Walls, Director of Plant Protection. Each member of the Police Unit received gold collar ornaments as his personal award which was handed him by S. LeRoy Crawshaw.

Master of Ceremonies was Captain James A. Estill, Chief of Emergency Protection Branch, Southern Security District, U. S. A., and music for the occasion was played by the Sheriff's Boys Band under the direction of Colonel Vesy Walker.

Kishbaugh Resumes Duties with Jorgensen

T. L. Kishbaugh, who has held a dollar a year job as an alloy steel specialist with the War Production Board in Washington, has now returned to Los Angeles to resume his duties as vice-president of the Earle M. Jorgensen Co. Mr. Kishbaugh was loaned to Washington by the Jorgensen company in August of last year. At that time the alloy steel situation was very critical but through his efforts, and the efforts of other steel men serving with the WPB, production facilities were expanded and procedures were established which have since been effective in greatly relieving the tight situation in alloy steels. Kish, as he is known to his host of friends in local steel circles, says he is very glad to get out of Washington and return to his old haunts. Uncle Sam owes him a check for $1.08 for his thirteen months service with the WPB. Kish says he will frame the check—when he gets it.